NORDMENDE NTV28-100T

MODEL

SERVICE MANUAL

HINWEIS

CTV 521 ST/VT
CTV 523 ST/VT
CTV 524 ST/VT

Sehr geehrter Kunde,

das von Ihnen erworbene Fernsehgerät besitzt die Fähigkeit, Tonnormen verschiedener Länder umzusetzen.

In Einzelfällen kann es vorkommen, dass Sie die in Deutschland gültige Norm „BG“ manuell im Bildschirmmenü einstellen müssen.

Bitte beachten Sie, dass für andere Länder evtl. eine andere Tonnorm Gültigkeit hat. Bitte stellen Sie diese dann entsprechend ein.

Gehen Sie wie folgt vor:

1) Drücken Sie die Menü-Taste auf Ihrer Fernbedienung. Bewegen Sie sich nun mit der Programm-Taste nach unten und wählen Sie mit der Volume-Taste das Menü „System“ an.
2) Wählen Sie nun mit den Programm und Volume-Tasten auf der Fernbedienung den Unterpunkt „Handabstimmung“ an. Gehen Sie nun auf den Unterpunkt „Standard“. Durch Drücken der Volume Taste können Sie die Norm „BG“ auswählen.
3) Speichern Sie nun mit der OK-Taste.
4) Der Fernsehsender wird nun inklusive Ton wiedergegeben.
   Von diesem Programm aus haben Sie jetzt die Möglichkeit im Menü „Autom. Abstimmung“, den Sendersuchlauf für alle Sender erneut zu starten.
   a) Alternativ können Sie auch jedes Programm einzeln auf den gewünschten Modus umstellen.
   Folgen Sie hierzu den Punkten 1-4.

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. It is advised to insert an isolation transformer in the AC supply before servicing a hot chassis.

2. Potentials as high as 33KV are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by any one who is not competent with the precautions necessary when working on the high voltage equipment. Always discharge the anode of the tube.

3. When servicing observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all the parts which have been overheated or damaged by the short circuit.

4. always use the manufacturer's replacement safety components. The critical safety components marked with ∇ on the schematics diagrams should not be by other substitutes. Other substitute may create the electrical shock, fire or other hazards. Take attention to replace the spacers with the originals. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.

5. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.

6. When the receiver is not being used for a long time of period of time, unplug the power cord from the AC outlet.

7. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs of the plug.

2. Turn the receiver's power switch.

3. Measure the resistance value with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part a return path to the chassis the reading should be between 4Mohm and the 20Mohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly in to the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 2Kohm 10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an AC voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed metallic part and check the voltage at the each point.
5. Reverse the AC plug at the outlet and repeat each of the above measurements.
6. The potential at the any point should not exceed 1.4 Vrms. In case a measurement is outside the limits specified, there is the possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

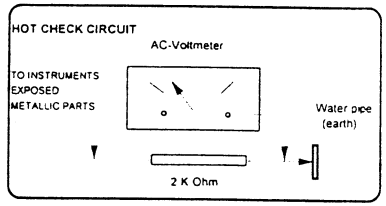


Figure 1

X-RAY RADIATION WARNING

The primary source of X-ray radiation in this receiver is the picture tube. The chassis is specially constructed to limit X-ray radiation. For continued X-ray radiation protection, replace the tube with the same type of the original one.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

TECHNICAL SPECIFICATIONS AND THE FEATURES

Power source:	220-240V AC ,50-60Hz	
Power consumption:	180 W	28"
	205 W	29"
	265 W	32"
	215 W	33"
Aerial impedance :	75Ohm, Coaxial type	
Receiving system *	PAL BG	
	PAL SECAM BG	
	PAL SECAM BG DK	
	PAL SECAM BG LL'	
	PAL I	
Receiving channels:	VHF BAND I , CH2-4	
	VHF BAND III , CH5-12	
	CATV CHANNLES S1-S41	
	UHF BAND CH21-69	

CPT	Focus Voltage	High Voltage	B+Supply Voltage
: 28" 4:3	6.42 - 10.05 KV	27.5KV ±0.5KV	145 V
28" P.FLAT 16:9	6.35 - 10.20 KV	29 KV±0.5KV	134 V
28" S.FLAT 16:9	6.78 - 11.39 KV	29.5 KV±0.5KV	130 V
29" P.FLAT	6.49 - 10.64 KV	29.5 KV±0.5KV	130 V
29" S.FLAT	7.85 - 9.41 KV	29 KV±0.5KV	133 V
32" P.FLAT	5.43 - 8.85 KV	29 KV±0.5KV	134 V
32" S.FLAT	5.58 - 9.54 KV	29 KV±0.5KV	133 V
33" 4:3	6.35 - 10.2 KV	29 KV±0.5KV	155 V

Grid 2 voltage :	0-1400V
Heater voltage :	6.3±0.2Vrms

Video/Audio Terminals :

AV1 IN	Video 1Vpp,75Ohm
	Audio 0.5Vrms, >10Kohm
	RGB
AV1 OUT	Video 1Vpp,75Ohm
	Audio 0.5Vrms, <1Kohm
AV2 IN (RCA-OPTIONAL)	Video 1Vpp,75Ohm
	Audio 0.5Vrms, >10Kohm

Operating temperature : 0-45 Degrees

Safety : IEC 65 /BS P2N

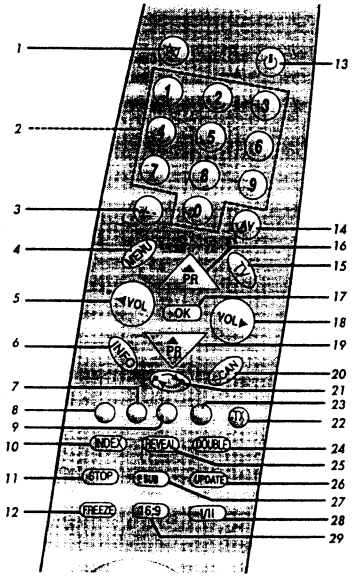
X-Ray radiation : ACC. IEC 65/BS P2N

- : TV set is produced to receive "one" of this colour and sound systems, which can be changed depending to the countries broadcasting system.

SPECIAL FEATURES :

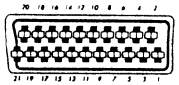
- *Possibility to watch cable broadcasting.*
- *Capability to show all tuning, programme numbers, all processes automatically on the screen (On Screen Display).*
- *Provision of the best image on the station being watched with the sensitive station tuning feature (Manual Fine Tuning).*
- *Automatic switch off between 01 minute to 23 hours 59 minutes when programmed.*
- *Automatic switch on and off programmable to the desired period.*
- *No image accompanied automatic sound noise interruption in gaps corresponding to broadcasting breaks while searching for station.*
- *100 programme memory.*
- *Infrared remote control with all the functions.*
- *Subwoofer (Optional)*
- *Virtual Dolby (Optional)*
- *Mosaic picture 12 for widescreen, 4 and 16 for 4:3 TV's.*
- *Two different Scart connection inlet providing connection of audio, video satellite receiver.*
- *Possibility to watch domestic and international rapid teletext broadcasts without any need for adding a separate module or connecting a stereo equipment.*
- *Direct channel selection feature which brings the desired broadcast to the screen either direct when channel number is given or by scanning 121 different channels forward and backward.*
- *Capability to make the processes easily with the developed menu system. Menu language selection in 8 different languages.*
- *Automatic switch-off within 5 minutes in case of interruption of the broadcast.*
- *S-VHS and CINCH inlets for S-Video connection.*
- *Program scanning, picture freeze and picture formatting features.*
- *No-tremble image quality with 100 Hz scanning frequency.*

REMOTE CONTROL:



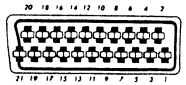
1. *Temporary mute button (MUTE)*
2. *Number assignment buttons*
3. *Single digit, two digit programme selection button*
4. *Menu button*
5. *Volume adjustment decrease button*
6. *Display button (INFO)*
7. *Red teletext button*
8. *Yellow teletext button*
9. *Yellow teletext button*
10. *Index button (P100)*
11. *Stop button (STOP)*
12. *Picture stop button (FREEZE)*
13. *Temporary on-off button (STAND-BY)*
14. *Audio/Video button (AV)*
15. *Last programme selection button*
16. *Program winding button (P+)*
17. *Confirmation button (OK)*
18. *Volume tune increase button*
19. *Programme rewind button (P-)*
20. *Picture scan button (SCAN)*
21. *Previous programme button*
22. *Teletext selection button (teletext view button MIX on TV picture)*
23. *Blue teletext button*
24. *Page enlargement button (DOUBLE)*
25. *Question/response button (REVEAL)*
26. *Temporary TV image button (UPDATE)*
27. *Sub page button (SUB PAGE)*
28. *Stereo/Mono and language selection button*
29. *Picture format button*

Scart Soket (AV1)
pin Connection



1. Right sound outlet
2. Right sound inlet
3. Left sound outlet
4. Sound earth
5. Blue earth
6. Left sound inlet
7. Blue
8. Keying
9. Green-earth
10.
11. Green
12.
13. Red-earth
14. Earth
15. Red
16. Blanking
17. Video-outlet earth
18. Video-inlet earth
19. Video outlet
20. Video inlet
21. Socket earth

Scart Soket 2 (AV2)
pin Connection

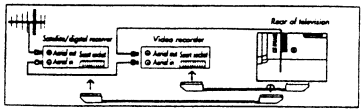


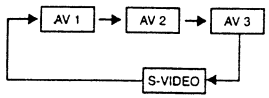
1. Right sound outlet
2. Right sound inlet
3. Left sound outlet
4. Sound earth
5. Earth
6. Left sound inlet
7.
8. Keying
9. Earth
10.
11.
12.
13. Earth
14. Earth
15.
16.
17. Video-outlet earth
18. Video-inlet earth
19. Composite video outlet
20. Composite video inlet/
21. Socket earth

Note 2 : *By means of scart socket from the external device supporting NTSC system you can obtain image in the position of AV1 or AV2. In this case* ***"TINT"*** *feature will be added on the picture menu.*

On this feature, you can make the colour adjustment you want by using ***"VOL►"/"VOL◄"*** *keys on your command.*

TV, Video and satellite receiver connections





Note : Use programme keys to get out of AV cycle.

Note 1 : *In case you connect Decoder to your TV from the Scart1 inlet and connect Video, DVD or VCD from Scart2 inlet and work at the same time, with the broadcast coming by means of Decoder to encoded state while watching broadcast in AV2 position your television will automatically pass from AV2 position to AV1 position.*

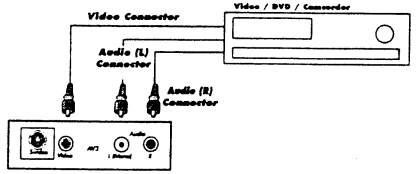
Note 3 :
You can record the device you connected from AV1, AV3 and S-VIDEO inlet to an external record device you will connect to the AV 2 socket of your TV. See the section for outlet to AV2 under the heading of other features.

Note 4 :
In case of entry of MONO sound from scarts (L or left sound entry), bring the sound type to DUAL 1 position to hear the sound from both speakers.

Note 5 :
Devices which automatically pass to AV, also determine the screen mode to become 4:3 or 16:9.

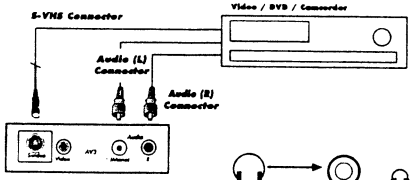
Note 6 :
Connection cables are not given together with the television.

External device connection from AV terminals (AV3)

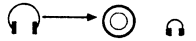


You can connect your devices like video, DVD player, camera from RCA type connector inlets of your television. In this case, bring your television to "AV3" position by pressing the "AV" key on the remote control.

Connection of device with S-VHS connector (AV3-S)

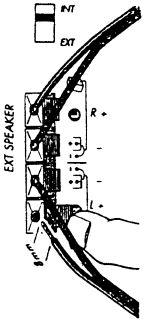


Connection of device with S-VHS connector (AV3-S) Left (R) - sound entry CINCH connector - Left (L) "MONO inlet" - S-VHS connector - S-VHS Video/Camera You can connect your devices like video-player or camera which have S-VHS feature to your television as on the left. In this case bring the television to "S-VIDEO" position by pressing the "AV" key. You can watch your video cassette in S-VHS format on your television in clear picture quality with a video of S-VHS feature.

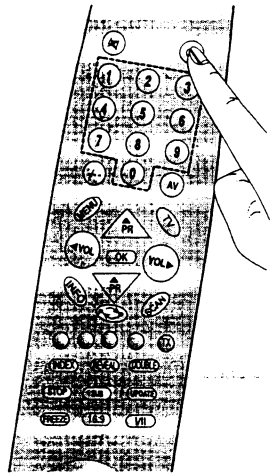


Headphone connection (optional)
Connect a headphone with a headphone socket, which has an impedance of between 8 and 600 Ohm and is of the 3,5 mm jack type. Insert the plug into the headphone socket. In the Sound menu select Headphone to adjust the sound adjusments for headphone.

External loudspeakers (optional)
You can replace the left and right internal loudspeakers of your set by two extra loudspeakers, 8 Ohm each. Connect the loudspeakers to the connector clips at the back of the TV. Push the connector clip down and insert the ends of the wires into the openings: the negative wires to the black connector clips, the positive wires (the one with a black line) to the red connector clips.Do not insert the wires too far. Connect the front left loudspeaker to L and the front right loudspeaker to R. Put the loudspeaker switch on the back in the EXT position. The internal right and left loudspeakers of your TV are now switched off.



Using your television



Temporary switch-off (STAND-BY)

When you press the red "STAND-BY (Temporary switch-off)" key on the right upper side of your remote control device, while your TV is in working condition, the image and sound of your television will be cut off. In order to turn on your television again, press any number key or ***" PR▼"/"PR▲"*** *keys.*

Attention!
If you are not going to use your television for a long time, turn off from on-off (network) key. When you use your television continually with the "temporary switch-off" key, the process of cleansing magnetic area does not realise. For this reason colouring may arise on the screen. In this case switch off your television from the on-off (network) key. Turn on your television again after it cools down.

Temporary sound interruption

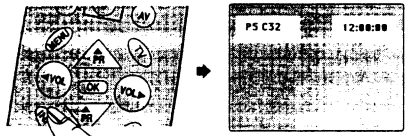
1 *When you want to interrupt the sound of your television for a temporary period, press* ***"MUTE"*** *key.*

2 *In this case the sign " 🔇 " will appear.*

3 *When you press the same key for the second time, the sound will be opened again.*

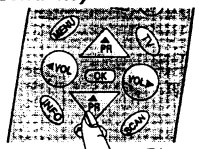
For information: While on mute position, volume decreases when you press ***"◄VOL"*** *key, when you press* ***"VOL►"*** *key, Mute position cancels.*

Display key



When you press ***"INFO"*** *key, the number of programme you have been watching and the name of the programme (if the name of the programme is not given, the channel number) will appear on the top left corner of the screen and the time will appear on the right top corner if the broadcast you have been watching is with teletext. After a short while, the image is automatically deleted. When pressed for the second time, programme schedule appears on the screen.*

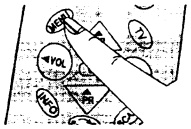
SWAP key



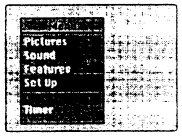
When you press ***"P ⇄ P"*** *key, whichever programme you watched before the one you are currently watching, it comes to the screen. When you press this button again, the programme you were watching previously comes to the screen.*

Broadcast tuning and recording to memory
- With the ATS (Automatic Tuning System) feature of your television, you can automatically search for TV broadcasts, find and record to the memory. Or you can enter channel numbers, thus find the broadcasts.

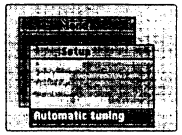
A. Automatic search of TV channels and recording to memory



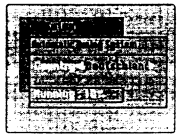
*Bring the menu to the screen by pressing the **"MENU"** key on the remote control.*



1 *Then press **"PR▼"** key, make channel tuning line blue. Press **"VOL►"** key. Channel tuning menu will come to the screen.*

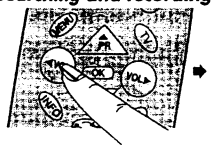


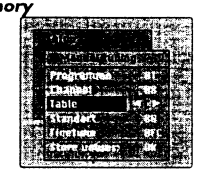
2 *By pressing the **"PR▼"**key, turning the automatic tuning line into blue, press **"VOL►"** key. Automatic channel tuning menu will come to the screen. By using **"VOL►/VOL◄"** keys, choosing Turkey against country, press **"OK"** key.*

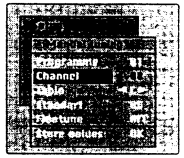


3 *Channels will automatically scanned and channels on which broadcast is found will be started to be taken into memory from the First programme. At that moment it will display completed channels on the screen as percentage. When the process is completed Channel Tuning menu is deleted. In order to stop the process at any moment, press **"TV"** key. You can record programme numbers taken into memory, any channel you want as stated in Programme Listing section. For those required to be fine tuned among those taken into memory, tune as told in Fine Tuning section and record to the memory. In order to cancel those unnecessary due to frequency pollution (especially in areas where Tv receivers are intense), see Programme delete section.*

B. Searching and recording of TV channels into memory







*Press the **"MENU"** key on your remote control. By using "PR" key turn the channel tuning keys into blue. Bring the Channel tuning menu on your screen by pressing **"VOL►"**.*
*By using **"PR▼"** key, making the Manual tuning line to blue, pressing the **"VOL►"** key, bring the Manual tuning menu on your screen.*

A. if you know channel numbers:
Enter the channel number by using numbering keys.

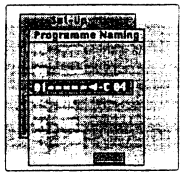
B. if you don't know the channel number:
*Scan the channel numbers in an increasing order by pressing **"VOL►"** on your remote control, in a decreasing order by pressing **"VOL►"**. When you meet the number of broadcast receiving channel the image will appear on the screen. If the broadcast on the screen is not in the desired quality, continue searching for channel.*

*With the **"PR▼"/"PR▲"** keys of your remote control, make Channel type line into blue. With the **"VOL►"** key choose **"S"** for cable channels, **"C"** for the broadcast received from antenna. Again proceed to Channel No. key with the **"PR▼"** key.*

Recording to the memory:
*After finding the desired station, make the Programme line blue with the **"PR▼"** key. By using the numbering keys, enter the programme number which you want to take your current channel into memory. You can also select the programme number by using **"VOL►/VOL◄"** keys.*
*After having selected the programme number press **"OK"** key. When the letters on the record to memory line turn into yellow in an order and then again become white, the broadcast will be taken into memory with the programme number you have chosen.*
*You can record other channels as well into memory by searching in the same way. If you would like to exit Channel tuning menu for some reason, press **"TV"** key.*

Fine Tuning
*If the current channel requires fine tuning make the Fine Tuning line blue by entering the Manual tuning menu from the Channel Tuning menu using **"PR▼"** key. By using the **"VOL►"/"VOL◄"** keys on your command, adjust the broadcast seen on the screen to the desired quality. Under normal conditions you will not require fine tuning. (**OFK** is running.) AFC circuits of your television will be locked to the desired station. However in case TV transmitters do not function in the standards, you may require that. When you make fine tuning AFC will get out of circuit. The operation to take the tuning you have made to memory is as above.*

Programme Schedule
Deletion/replacement of broadcast taken into memory:



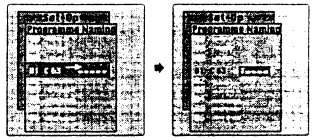
*By entering the channel Tuning sub-menu from the Menu, make the Programme listing line in blue colour. Press **"VOL►"** key, enter Features menu.*

*Move towards the programme number you want to delete with the **"PR▼"/"PR▲"** keys. After the programme you have selected comes to the screen, press the **"VOL►"** key. Delete and Red signs will appear in the lower part of the screen.*

Deletion:
If you press the red key on the remote control, the channel on the selected programme will be deleted and the channels taken into memory in the following programmes will pass onto previous programme numbers

Replacement:
Choose the channel taken into memory in the programme you have chosen by using "PR"/ "PR" keys. Press "VOL" key, bring the desired programme number opposite to it with "PR"/ "PR" keys.
Press "VOL" key. The broadcast is transferred to the desired programme number. Channels taken into memory in the following programmes will pass into the following programme number.

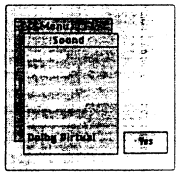
Naming of programmes:
You can name the programme or programmes you want in five characters
By entering Channel Tuning sub menu from the menu, make the naming line in blue colour with the "PR" key. Press "VOL" key, enter Features menu.



*Select the programme you want to name or change the given name with **"PR▼"/"PR▲"** keys. Press **"VOL►"** key.*

*Select the letter or number by using "PR" and "PR" keys. In order to move to the following/previous digit, use **"VOL►"/"VOL◄"** keys. After having entered all the characters, record the name you have written into memory by pressing the **"OK"** key.*
Repeat the above procedures to write name in other programmes.
*IF you want to exit the menu before finishing the process for some reason, press **"MENU"** key.*
***Note:** If no name is given to the programme channel number of 0 programme will be written automatically.*

Volume tuning
*You can make volume level tuning by using **"VOL►"/"VOL◄"** keys on your command when there is no menu on the screen or by using **"►◄◄"** keys on the front panel of your Tv.*
*Press **"MENU"** key. Make the volume line blue with the "PR" key, press **"VOL►"** key. Volume tuning menu will come to the screen.*

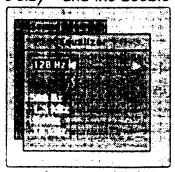


***Balance adjustment:** In order to adjust the volume balance between the left and right earphones, make the Balance line blue by using **"PR▼"** key. Make the balance adjustment by using **"VOL►"/"VOL◄"** keys.*

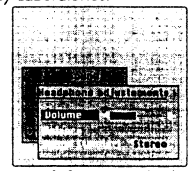
***Subwoofer:** (For the TVs with this feature). In order to tune the subwoofer speaker volume level make the Subwoofer line blue by using **"PR▼"**key. Make level adjustment by using **"VOL►"/"VOL◄"** keys.*

***Virtual Dolby:** (For the TVs with this feature). DVD or video cassette recorded with Virtual Dolby, Dolby Pro Logic Sound System enables you to listen with two speakers under the influence of Dolby Pro Logic.*

Manufactured under license from Dolby Laboratories.
® " Dolby " and the double-D symbol are trademarks of Dolby Laboratories.



***Equalizer:** Make the Equalizer line blue, press **"VOL►"** key.*
*Equalizer menu will appear on the screen. Choose the frequency band you want to tune with the **"PR▼"/"PR▲"** keys. Adjust the chosen frequency level with the keys of **"VOL►"/"VOL◄"**. Tuning levels are automatically taken into the memory.*
***Note:** If this feature is chosen in TVs with virtual Dolby feature, Equalizer menu can not be entered*

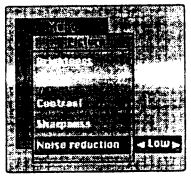


***Headphone:** Make the headphone line blue, press **"VOL►"** key. headphone tuning menu will appear on the screen. You can use the functions here when you insert headphone in the properties suitable with the headphone outlet of your TV. You can make tuning selection with **"PR▼"/"PR▲"** keys, adjust the level with the **"VOL►"/"VOL◄"** keys. IF the broadcast you watch in the sound standard is stereo you can listen by selecting mono/stereo, is it is in two different languages you can listen with Dual I / Dual II selection.*

NOTE: *Your television has the feature to receive Analogue stereo (A2) broadcast.*
If the broadcast you have been watching is stereo the STEREO sign will appear on the screen.
If the stereo broadcasting is bad or you want to listen as mono, press the **"I/II"** *key on the remote control. Organisations making stereo broadcast can make broadcasting in tow different languages instead of stereo. (DUAL I/II feature). In such broadcasts, you can listen to one of these languages as mono from both speakers. To choose language, press* **"I/II"** *key on remote control.*

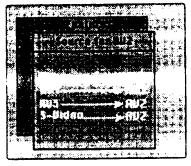
Image tuning

Press **"MENU"** *key, then* **"VOL►"** *key when the Picture line is blue. Picture tuning menu will appear on the screen. You can make tuning selection by using* **"PR▼"/"PR▲"** *keys, adjust levels with* **"VOL►"/"VOL◄"** *keys. You can change picture brightness, colour intensity, contrast and sharpness levels depending on your choice. Besides, with the help of noise reduction feature of your Tv you can decrease picture failures to arise for various reasons under options depending on its strength.*



Outlet to AV2

You can choose the exit to the second socket in the rear of your television. The ease of utilisation of this is to be able to record to a device you will connect to a second Start from a different inlet while watching broadcast from a different inlet or the ability to send picture and sound information.
TV television broadcast.
Picture and sound information coming from the device connected from AV1 first scart.
Picture coming from the device connected from AV3 inlet and sound information connected from CINCH connectors. (for TVs with AV3 inlet) Picture coming from the device connected from S-Video S-VHS inlet sound information connected from CINCH Connectors.



Other features:

Press **"MENU"** *key then* **"VOL►"** *key when Features line is blue. Features tuning menu will appear on the screen.*

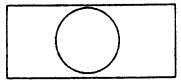
Child lock

If you want to activate Child lock by pressing **"VOL►"** *key choose Yes position. In this case your television will not be worked from the keys on the front panel. It can only be worked with remote control. If you want to cancel child lock, choose No position.*

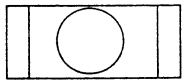
Automatic volume control (AVC)

Sound qualities and levels of broadcasting institutions are different. This is felt when volume level in once channel is high and low in the other during programme transitions or when advertisement broadcast starts.
If you want to activate AVC by pressing **"VOL►"** *key, choose Yes position.*
Since activating AVC effects the sound quality in film and music broadcasts, Yes position is not taken into memory.

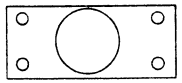
Picture format (Optioal)



16:9 *The set will automatically switch over to the 16:9 format when it detects a 16:9 format from scart inputs. However, you can also switch the format yourself.*



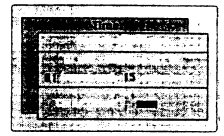
4:3 *Conventional 4:3 picture format. It can be enlarged by selecting 16:9 format.*



Letter Box *This mode is usefull when watching video Clips, some film formats and Pal-Plus Format. If you can't see the subtitle supplied by an external appliance at the bottom of the screen, especially when watching 4:3 picture in Letter Box format, press MIX button.*

Menu language
Press **"MENU"** *key. Make the Language line blue with the* **"PR▼"** *key, press* **"VOL►"** *key. Language selection menu will appear on the screen. You can choose one of the languages of English, German, French, Turkish, Spanish, Italian, Swedish, Flemmish by using* **"PR▼"/"PR▲"** *keys.*

Automatic switch off-on
You can switch off your television automatically in the end of the period you will give, and again switch on automatically in the end of the period you will give. Press **"MENU"** *key. Make the Timer line blue with the "PR" key, press* **"VOL►"** *key. Timer menu will appear on the screen. Periods are given in hours and minutes. If the period you will give is less than an hour, make the time entry OO. For automatic switch-off choose Automatic switch-off from Timer menu. Enter the hour and minute by using the numbering keys of remote control, exit menu. To see the remaining period at any time, enter this menu. For automatic switch-on choose Automatic switch-on from the Timer menu. The procedure to be made is as told in automatic switch-off.*
To cancel the entered period, press the Red key on remote control.



Note: *If you switch off your television from the network key, the periods you have given for automatic on-off will be cancelled*

Picture format
Press **"16:9"** *key on remote control. Picture Format menu will appear on the screen. You can choose the format you want with the* **"VOL►"** *key.*
In Normal the picture format of your television is 4:3.
Narrow is for viewing in 16:9 format.
Long is for placing the picture within screen framework in case of receiving 4:3 broadcast in Letter-box format.
Note: *When programme is changed, picture format becomes Normal (4:3).*

Picture freeze
When you press **"FREEZE"** *key on your remote control, the picture on the screen becomes fixed. To get out of the position, press the same key again.*

Picture scan
You can watch the first four or sixteen programmes from the programme you have been watching, on the screen within frames. Press **"SCAN"** *key on your command for this. The programme you are watching and the following three programmes will be scanned in intervals on the screen in four different frames. To view the desired one from these programmes, press* **"SCAN"**, **"TV"** *or* **"OK"** *during scanning. The programme you chose will appear on the screen. By pressing* **"PR▼"** *key during scanning, you can make the number of scanned programs sixteen. To exit, press* **"SCAN"** *key.*
Note: *In widescreen TVs only twelve scanning is made.*

Viewing desired programme
When you press the **"INFO"** *key on your remote control twice consecutively, bring the Info headed programme schedule to the screen. When you move onto the programme you are willing to watch with the keys of* **"PR▼"/"PR▲"**, *the image of that programme will appear on the screen. To delete the schedule from the screen, press* **"INFO"** *or* **"TV"** *key.*

Special Teletext Functions

P100 (Index / info key)

To select the index page, press this key.

Sub page key (SUB)

In case the teletext broadcasting institute broadcasts the sub pages of an teletext page, you can move to sub pages by using **"SUB"** *key. In this case,* **"P****/*****"** *is seen on the lowest line. Enter the number of the sub page you want by using the numbering keys. You can exit the sub page by pressing the same key again.*

Page enlargement key (DOUB)

You can view the upper half of the teletext page by using this key. Press the same key again to see the lower part of the same page as enlarged. When you press the **"DOUB"** *key for the third time page will return to its normal size.*

Question reply key (REV)

Sometimes a teletext page includes a hidden reply like a game or puzzle. To disclose the hidden reply, press **"REV"** *key.*

Stop key (STOP)

Some information are arranged as more than one page by the publishing institution, published as automatically converted. For example, in a letter comprised of four pages, pages are displayed on the screen as 1/4, 2/4, 3/4, 4/4. To look at one of these pages for longer press **"STOP"** *key. When you press the same key again, it continues.*

Teletext display key on TV picture (MIX)

*By pressing **"TX"** key, you can view teletext information and TV broadcast on each other and together. Thus, you can follow the teletext broadcast of that channel while on TV broadcast. To return to teletext broadcast, press **"TX"** again, to return to TV broadcast pres **"TV"** key.*

Temporary TV display key (UPDATE)

*It is for you to wait for the searching of the page by passing on to the television display when the page you want is searched on teletext broadcast. While searching for the page for which you want teletext, you can change to television display by pressing **"UPDATE"** key. When the desired page is found, the number of that page appears on the screen.*

Fastext position

Coloured keys on remote control device are for fastext feature. When you choose any page, headings on various subjects could have been written in four different colours or in coloured frames (red, green, yellow and blue). By pressing the key for the related colour on remote control device, you can reach the desired subject without waiting.

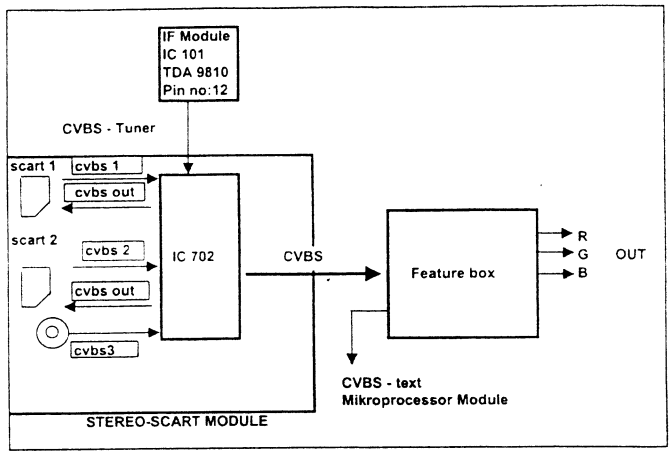
***Note:** Fastext feature is not available in all teletext broadcasts. Whether it will be published or not is determined by the institution making the broadcast.*

SERVICE TIPS

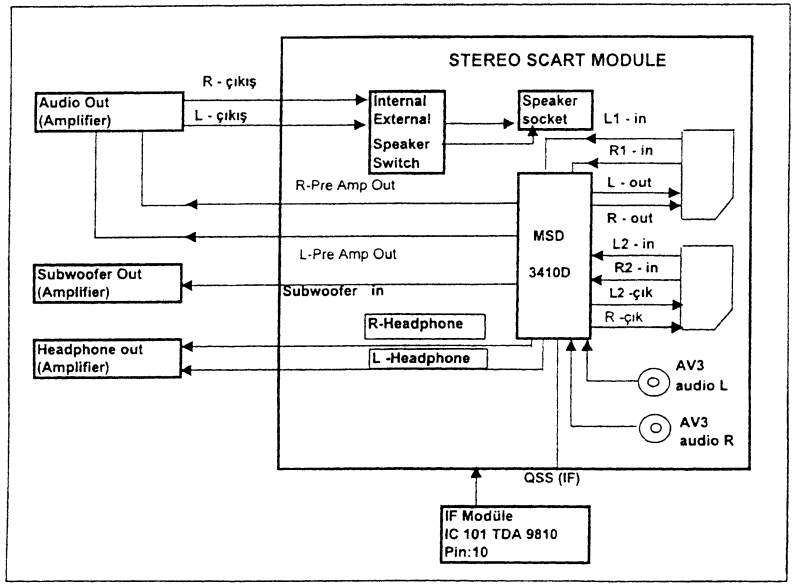
BEFORE CALLING FOR SERVICE
HAVE YOU CHECKED (√) THE
FOLLOWING CHERT ON SYMPTOMS
AND SOLUTIONS?

Symptoms	Check if on/off switch is "on"	Try a different channel, if OK, probably station trouble	Check aerial connections on back of set	Check aerial for broken wires	Re orientate aerial	Probably local interference, such as an appliance	Adjust fine tuning control	Adjust brightness control	Adjust contrast control	Check if station is broadcasting colour	Adjust colour control	Check batteries in the remote control handset	Switch the TV set OFF and ON from mains
No picture, no sound	√	√	√	√			√						
Poor sound, picture OK		√			√		√						
Poor Picture, sound OK		√	√	√			√	√					
Weak picture		√	√	√	√		√						
Blurred picture		√		√	√		√						
Double image		√	√	√	√		√						
Lines in picture		√		√	√	√	√						
Distorted picture		√		√	√		√						
Weak reception on some channels		√	√	√	√	√	√						
Horizontal bars				√	√	√							
Picture rolls vertically		√		√	√	√							
Poor colour		√	√	√	√	√	√	√	√		√		
No colour		√	√	√	√		√			√	√		
Remote control not working												√	√
TV does not accept any command													√
Teletext rolling up/down													√

VIDEO BLOCK DIAGRAM



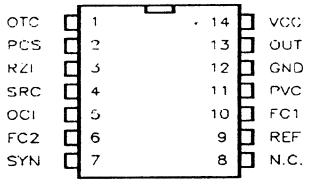
AUDIO BLOCK DIAGRAM



TDA 16846 Controller For Switch Mode Power Supplies

Description

TheTDA16846 is optimized to control free running or fixed frequency flyback converters with or with-out Power Factor Correction (Current Pump). To provide low power consumption at light loads, this device reduces the switching frequency continuously with load, towards an adjustable minimum (e.g. 20kHz in standby mode). Additionally, the start up current is very low. To avoid switching stresses of the power devices, the power transistor is always switched on at minimum voltage. A special circuit is implemented to avoid jitter. The device has several protection functions: VCC over- and undervoltage, mains undervoltage, current limiting and 2 free usable fault comparators. Regulation can be done by using the internal error amplifier or an opto coupler feedback (additional input). The out-put driver is ideally suited for driving a power MOSFET, but it can also be used for a bipolar transistor.
Fixed frequency and synchronized operation are also possible.



Pin Description

Pin	Symbol	Function
1	OTC	Off Time Circuit
2	PCS	Primary Current Simulation
3	RZI	Regulation and Zero Crossing Input
4	SRC	Soft-Start and Regulation Capacitor
5	OCI	Opto Coupler Input
6	FC2	Fault Comparator 2
7	SYN	Synchronization Input
8		N. C.
9	REF	Reference Voltage and Current
10	FC1	Fault Comparator 1
11	PVC	Primary Voltage Check
12	GND	Ground
13	OUT	Output
14	VCC	Supply Voltage

Absolute maximum ratings

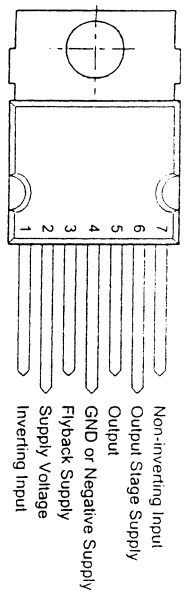
Parameter	Symbol	Min	Max	Unit	Remark
Supply Voltage at Pin 14	V_{CC}	-0.3	17	V	
Voltage at Pin 1, 4, 5, 6, 7, 9, 10		-0.3	6	V	
Voltage at Pin 2, 8, 11		-0.3	17	V	
Voltage at Pin 3 Current into Pin 3	RZI	-10	6	V mA	V3 < -0.3V
Current into Pin 9	REF	-1		mA	
Current into Pin 13	OUT	-100	100	mA mA	V13 > V_{CC} V13 < 0 V
ESD Protection				kV	MIL STD 883C method 3015.6, 100pF, 1500Ω
Operating Ambient Temperature	T_A	0	70	°C	
Storage Temperature	T_{stg}	-65	125	°C	
Operating Junction Temperature	T_j		125	°C	
Thermal Resistance Junction-Ambient	$R_{th(j-a)}$			K/W	P-DIP-14-3
Soldering Temperature			260	°C	
Soldering Time			10	s	

All voltages listed are referenced to ground (0V, V_{SS}) except where noted.

STV9379FA Vertical Deflection Booster

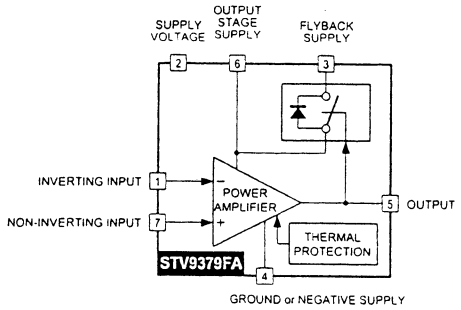
- POWER AMPLIFIER
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.6App
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- SUITABLE FOR DC COUPLING APPLICATION
- EXTERNAL FLYBACK SUPPLY

PIN CONNECTIONS



DESCRIPTION

Designed for monitors and high performance TVs, the STV9379FA vertical deflection booster can handle flyback voltage up to 90V. Further to this, it is possible to have a flyback voltage which is more than the double of the supply (Pin 2). This allows to decrease the power consumption, or to decrease the flyback time for a given supply voltage.
The STV9379FA operates with supplies up to 42V and provides up to 2,6App output current to drive the yoke.
The STV9379FA is offered in HEPTAWATT package.



BLOCK DIAGRAM

TDA9810

Multistandard VIF-PLL with QSS-IF and AM demodulator

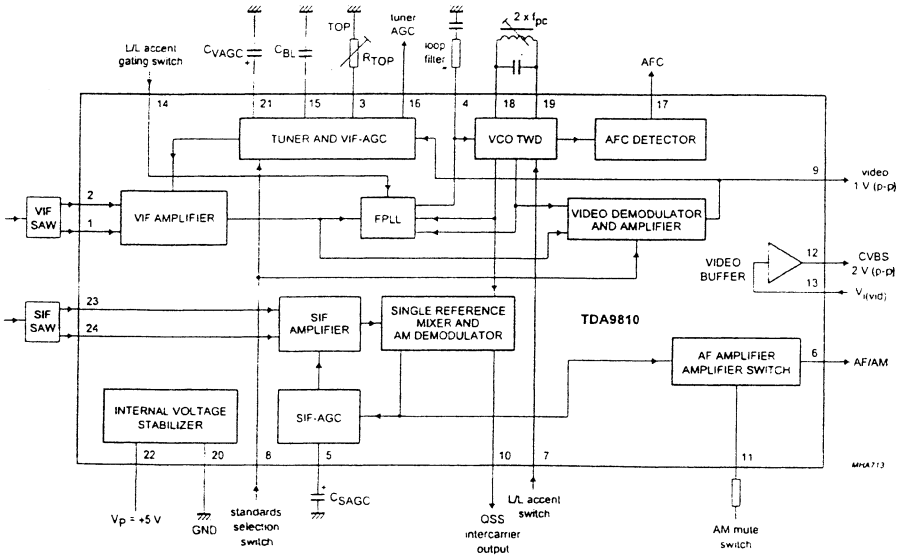
FEATURES

- 5 V supply voltage
- Gain controlled wide band Video Intermediate Frequency (VIF)-amplifier (AC-coupled)
- True synchronous demodulation with active carrier regeneration (very linear demodulation, good intermodulation figures, reduced harmonics, excellent pulse response)
- Gated phase detector for L/L accent standard; robustness for over-modulation until 105%
- Voltage Controlled Oscillator (VCO) frequency switchable between L and L accent (alignment external) picture carrier frequency
- Separate video amplifier for sound trap buffering with high video bandwidth
- VIF Automatic Gain Control (AGC) detector for gain control, operating as peak sync detector for B/G (optional external AGC) and peak white detector for L; signal controlled reaction time for L
- Tuner AGC with adjustable TakeOver Point (TOP)
- AFC detector without extra reference circuit
- SIF-input for single reference Quasi Split Sound (QSS) mode (Phase Locked Loop (PLL) controlled); Sound Intermediate Frequency (SIF) AGC detector for gain controlled SIF amplifier; single reference QSS mixer able to operate in high performance single reference QSS mode
- AM demodulator without extra reference circuit
- AM mute (especially for NICAM)
- Stabilizer circuit for ripple rejection and to achieve constant output signals.

GENERAL DESCRIPTION

The TDA9810 is an integrated circuit for multistandard vision IF signal processing and sound AM demodulation with single reference QSS-IF in TV and VCR sets.

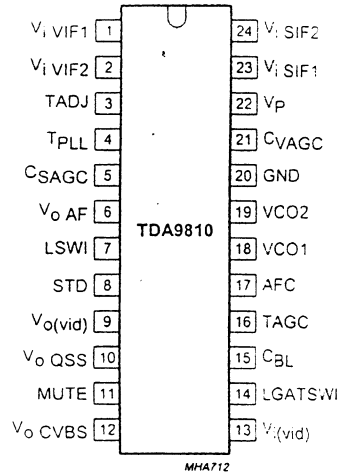
BLOCK DIAGRAM



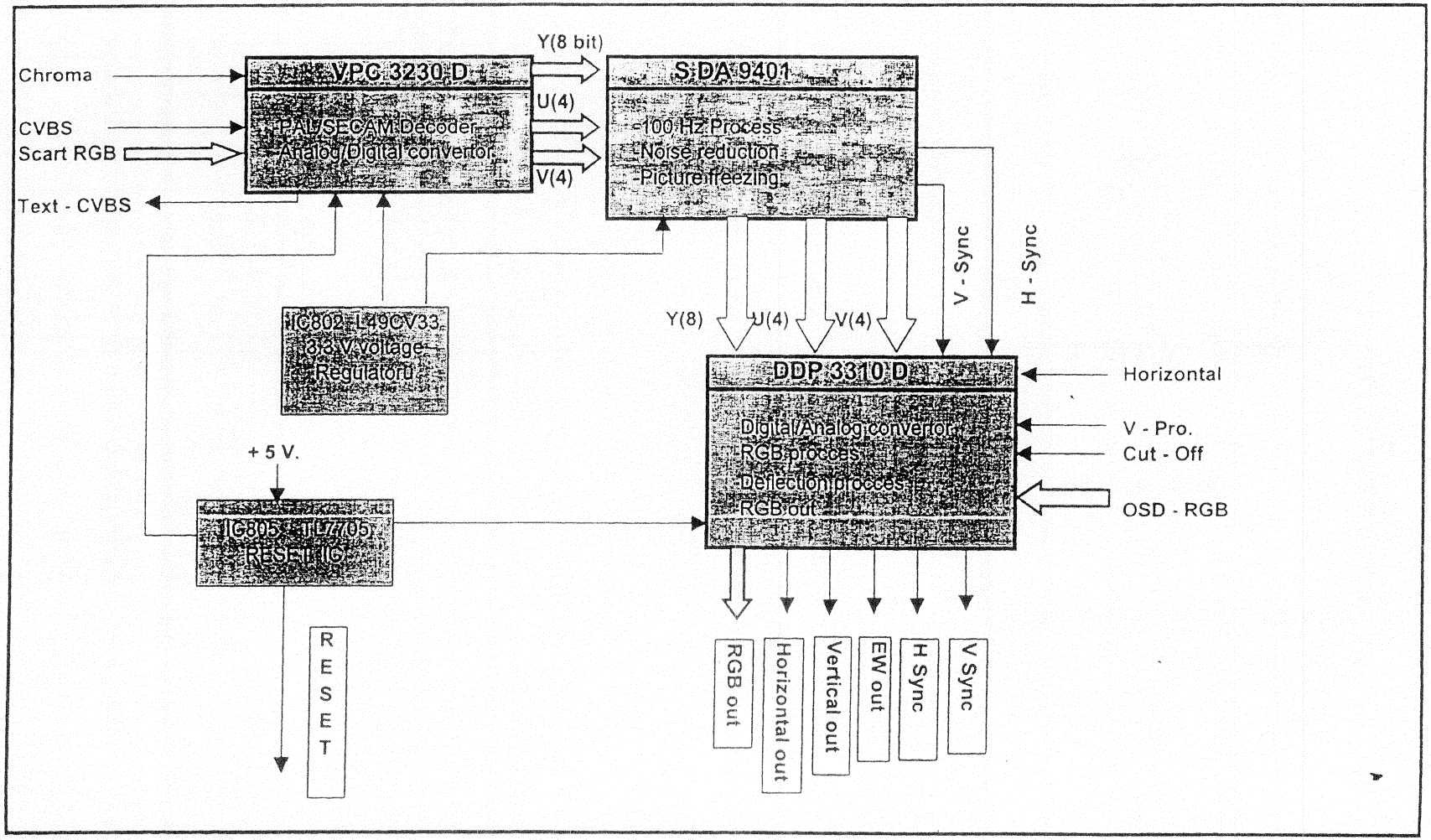
PINNING

SYMBOL	PIN	DESCRIPTION
$V_{i\ VIF1}$	1	VIF differential input signal voltage 1
$V_{i\ VIF2}$	2	VIF differential input signal voltage 2
TADJ	3	tuner AGC takeover point adjust
T_{PLL}	4	PLL loop filter
C_{SAGC}	5	SIF AGC capacitor
$V_{o\ AF}$	6	AM audio frequency output voltage
LSWI	7	L/L accent switch
STD	8	standard switch
$V_{o(vid)}$	9	composite video output voltage
$V_{o\ QSS}$	10	single reference QSS output voltage
MUTE	11	AM mute switch
$V_{o\ CVBS}$	12	CVBS output signal voltage

SYMBOL	PIN	DESCRIPTION
$V_{i(vid)}$	13	video buffer input voltage
LGATSWI	14	L/L accent gating switch
C_{BL}	15	black level detector
TAGC	16	tuner AGC output
AFC	17	AFC output
VCO1	18	VCO1 reference circuit for $2f_{sc}$
VCO2	19	VCO2 reference circuit for $2f_{sc}$
GND	20	ground
C_{VAGC}	21	VIF AGC capacitor
V_P	22	supply voltage
$V_{i\ SIF1}$	23	SIF differential input signal voltage 1
$V_{i\ SIF2}$	24	SIF differential input signal voltage 2



FEATURE BOX MODULE BLOCK DIAGRAM



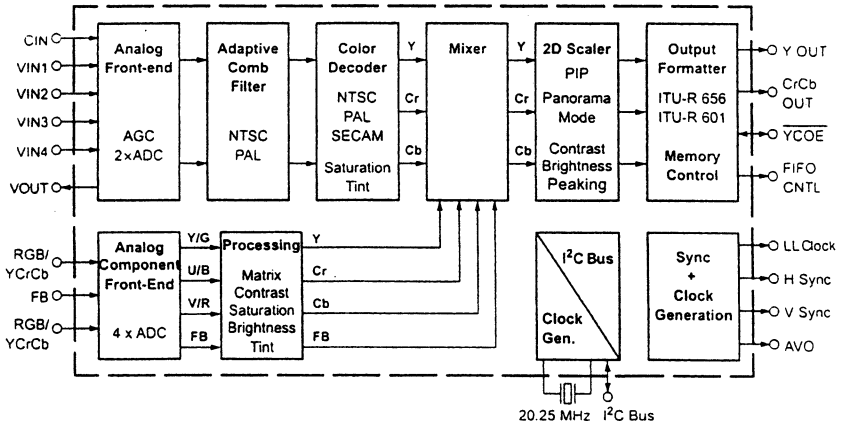
Comb Filter Video Processor

Introduction

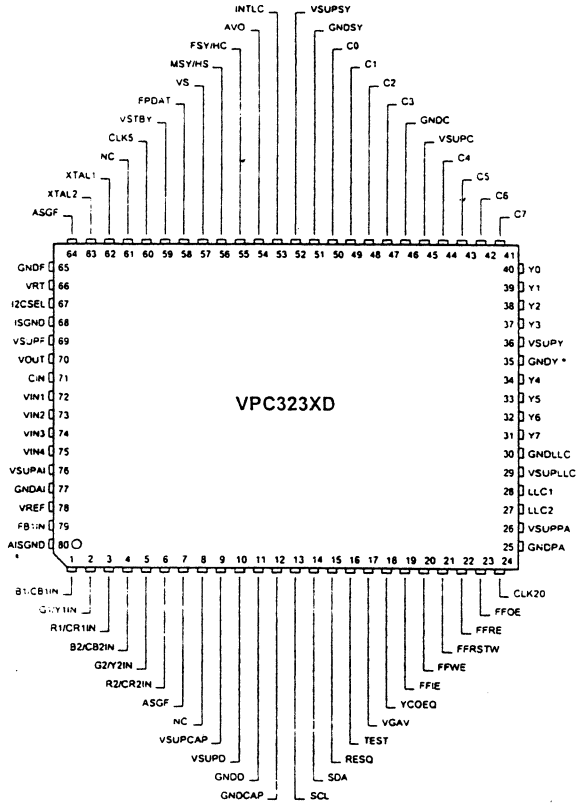
The VPC 323xD/324xD is a high-quality, single-chip video front-end, which is targeted for 4:3 and 16:9, 50/60 and 100/120 Hz TV sets. It can be combined with other members of the DIGIT3000 IC family (such as DDP 33x0A/B, TPU 3040) and/or it can be used with 3rd-party products.

The main features of the VPC 323xD/324xD are

- high-performance adaptive 4H comb filter Y/C separator with adjustable vertical peaking
- multi-standard color decoder PAL/NTSC/SECAM including all substandards
- four CVBS, one S-VHS input, one CVBS output
- two RGB/YC_rC_b component inputs, one Fast Blank (FB) input
- integrated high-quality A/D converters and associated clamp and AGC circuits
- multi-standard sync processing
- linear horizontal scaling (0.25 ... 4), as well as non-linear horizontal scaling 'panorama vision'
- PAL+ preprocessing (VPC 323xD)
- line-locked clock, data and sync, or 656-output interface (VPC 323xD)
- display and deflection control (VPC 324xD)
- peaking, contrast, brightness, color saturation and tint for RGB/YC_rC_b and CVBS/S-VHS
- high-quality soft mixer controlled by Fast Blank
- PIP processing for four picture sizes ($\frac{1}{4}$, $\frac{1}{9}$, $\frac{1}{16}$ or $\frac{1}{36}$ of normal size) with 8 bit resolution
- 15 predefined PIP display configurations and expert mode (fully programmable)
- control interface for external field memory
- I^2C-Bus Interface
- one 20.25 MHz crystal, few external components
- 80-pin PQFP package



Pin Configuration



DDP 3310B

Display and Deflection Processor

Introduction

The DDP 3310B is a single-chip digital Display and Deflection Processor designed for high-quality back-end applications in 100/120-Hz TV sets with 4:3- or 16:9 picture tubes. The IC can be combined with members of the DIGIT 3000 IC family (VPC 32xx, TPU 3040), or it can be used with third-party products. The IC contains the entire digital video component and deflection processing and all analog interface components.

Main Features

Video processing

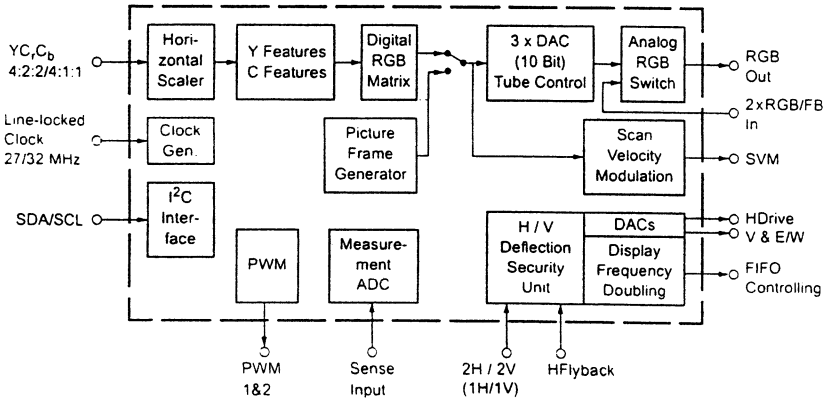
- linear horizontal scaling (0.25 ... 4)
- non-linear horizontal scaling "panoramavision"
- dynamic peaking
- soft limiter (gamma correction)
- color transient improvement
- programmable RGB matrix
- picture frame generator
- two analog RGB/Fast-Blank inputs

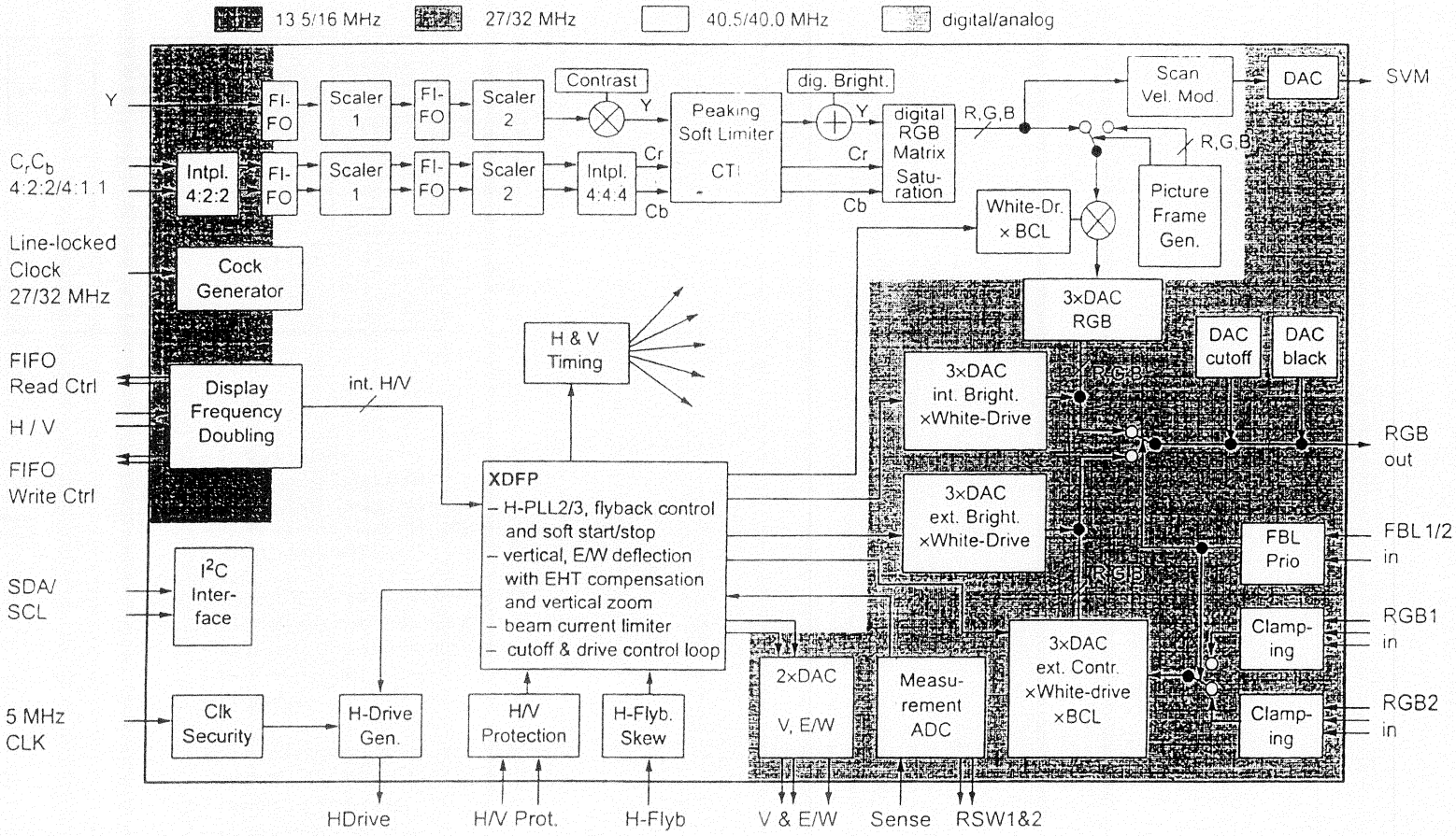
Deflection processing

- scan velocity modulation output
- high-performance H/V deflection
- EHT compensation for vertical / East/West
- soft start/stop of H-Drive
- vertical angle and bow
- differential vertical output
- vertical zoom via deflection
- horizontal and vertical protection circuit
- adjustable horizontal frequency for VGA/SVGA display

Miscellaneous

- selectable 4:1:1/4:2:2 YC_rC_b input
- selectable 27/32-MHz line-locked clock input
- crystal oscillator for horizontal protection
- automatic picture tube adjustment (cutoff, white-drive)
- single 5-V power supply
- hardware for simple 50/60-Hz to 100/120-Hz conversion (display frequency doubling)
- two I^2C-controlled PWM outputs
- beam current limiter




13.5/16 MHz
27/32 MHz
40.5/40.0 MHz
digital/analog
Y
C_r C_b 4:2:2/4:1:1
Line-locked Clock 27/32 MHz
FIFO Read Ctrl
H / V
FIFO Write Ctrl
SDA/ SCL
5 MHz CLK
FI-FO
Scaler 1
Scaler 2
Intpl. 4:2:2
Intpl. 4:4:4
Contrast
Peaking Soft Limiter CTI
dig. Bright.
digital RGB Matrix Satu-ration
R,G,B
Scan Vel. Mod.
DAC
SVM
White-Dr. × BCL
Picture Frame Gen.
Cock Generator
Display Frequency Doubling
int. H/V
H & V Timing
3×DAC RGB
DAC cutoff
DAC black
3×DAC int. Bright. ×White-Drive
3×DAC ext. Bright. ×White-Drive
RGB out
FBL Prio
FBL 1/2 in
Clamp-ing
RGB1 in
RGB2 in
XDFP
– H-PLL2/3, flyback control and soft start/stop
– vertical, E/W deflection with EHT compensation and vertical zoom
– beam current limiter
– cutoff & drive control loop
I²C Inter-face
Clk Security
H-Drive Gen.
H/V Protection
H-Flyb. Skew
2×DAC V, E/W
Measu-rement ADC
3×DAC ext. Contr. ×White-drive ×BCL
HDrive
H/V Prot.
H-Flyb
V & E/W
Sense
RSW1&2

SDA 9401

General description

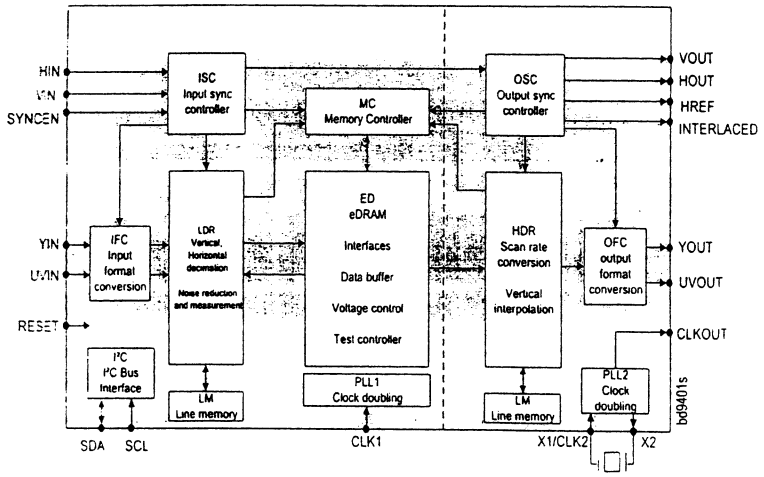
The SDA 9401 is pin compatible to the SDA 9400 (frame memory embedded).
The SDA 9401 comprises all main functionalities of a digital featurebox in one monolithic IC.

The SDA 9401 does a simple 100/120 Hz interlaced (50/60 Hz progressive) scan rate conversion. The scan rate converted picture can be vertically expanded. The SDA 9401 has a freerunning mode, therefore features like multiple picture display (e.g. tuner scan) are possible.

The noise reduction is field based. Furthermore separate motion detectors for luminance and chrominance have been implemented. For automatic controlling of the noise reduction parameters a noise measurement algorithm is included, which measures the noise level in the picture or in the blanking period. In addition a spatial noise reduction is implemented, which reduces the noise even in the case of motion. The input signal can be compressed horizontally and vertically with a certain number of factors. Therefore split screen modes are supported too.

Beside these additional functions like coloured background, windowing and flashing are implemented.

Block diagram



- **Flexible clock and synchronization concept**
  - Decoupling of the input and output clock system possible
- **Scan rate conversion**
  - Simple 100/120 Hz interlaced scan conversion (e.g. AABB, AA*B*B)
  - Simple progressive scan conversion (e.g. AA*)
- **Flexible digital vertical expansion of the output signal (1.0, ... [1/32] ... , 2.0)**
- **Flexible output sync controller**
  - Flexible positioning of the output signal
  - Flexible programming of the output sync raster
- Signal manipulations
  - Insertion of coloured background
  - Vertical and/or horizontal windowing with four different speed factors
  - Flash generation
  - Still field
  - Support of split screen applications
  - Multiple picture display - Tuner scan (4 and 16 times for 4:3, 12 times for 16:9 tubes)
  - Support of multi picture display with PIP or front-end processor with integrated scaler (e.g. 9 times display of PIP pictures, picture tracking, random pictures, still-in-moving picture, moving-in-still picture)
- **I²C-bus control (400 kHz)**
- **P-MQFP-64 package**
- **3.3 V ± 5% supply voltage**

SERVICE ADJUSTMENTS (rewrzec 10.17 w pilocie)

Enter the service Mode :

You need the special remote control to enter and exit the service menü of the TV (You can supply it from manufacturer.) All buttons of service RC are same with user remote control , only service in/out key are added to the service remote control.

IF Modüle Adjustment :

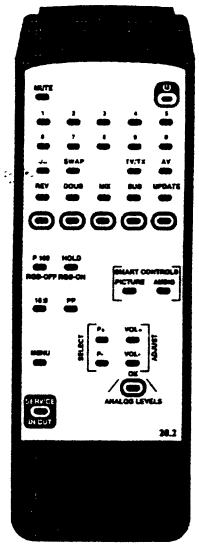
Apply a RF signal with amplitude 65 ±1dBuV to the antenna input of TV from a pattern generator. (switch sound carrier to off and switch "Video ext" to on)
Connect an osciloscope to pin ≠10 (IF1) of Tuner and ground.Adjust the amplitude of signal 600±20mVpp with P102 potantiometer.

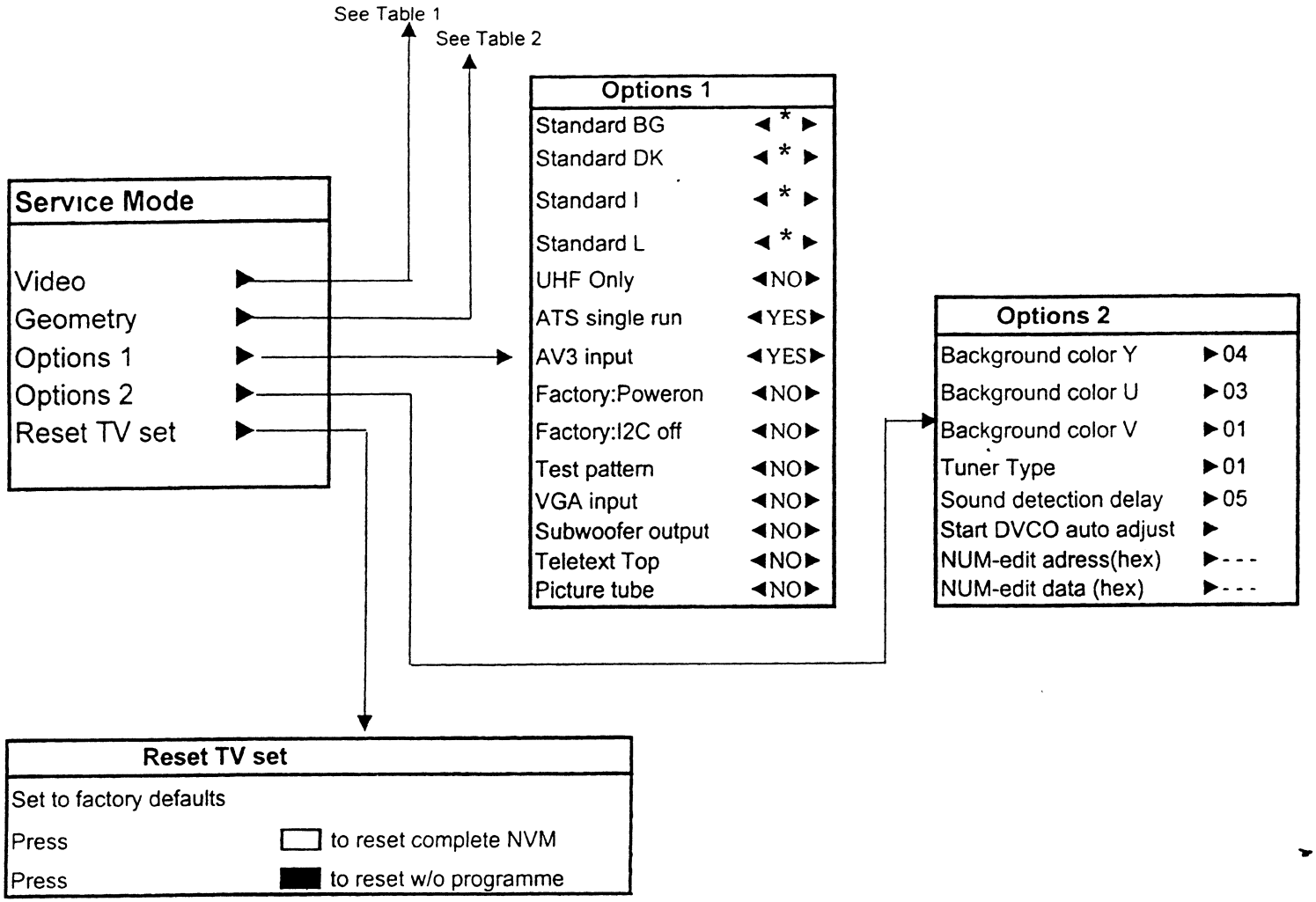
Secreen Adjustment :

Enter the Service menü with service R/C and select "Video" submenü. In this option, select "HOLD" button. Screen will be blank and a line appears in the middle of screen. In this case, adjust the screen potentiometer to the level where the line is just visiable firstly.

Geometry Adjustment :

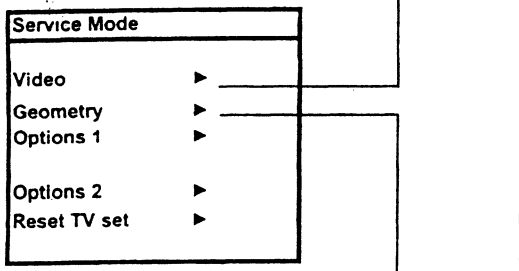
- 20.2 chassis have two Geometry adjustment memories which are Geometry PAL and Geometry NTSC.
- Apply a signal with FUBK or Philips test pattern.
- Both PAL and NTSC geometry adjustments have to be completed for all versions.
- Adjust vertical width at " **V-size** ", vertical linearite at " **V-line** ", horizontal width at " **EW-width** ", general parabola at " **EW-Parabola** " , horizontal centering at " **H-shift** ", trapezium at "**EW- trapezium**", Upper corner parabola at " **EW-Upper corner**", lower corner parabola at **"EW-lower corner"**, **"BOW"** and **" S-correction".**
- In service menü, do not adjust "NVM-edit adres (hex)", "NVM-edit data(hex) items and "Reset Tv set" subtitle. Reset TV set subtitle is releated and used for factory adjustments only.
- For NTSC geometry adjustment , apply a NTSC signal to scart 1 (AV1) from a pattern generator with FUBK or Philips test pattern. Enter the service menü and select "Geometry" submenü. In this case, the title of Geometry submenü is "Geometry (NTSC)" on screen.
  After geometry adjustments exit from service menü.





*** Depends on model and country**

20.2 SERVICE SETUP



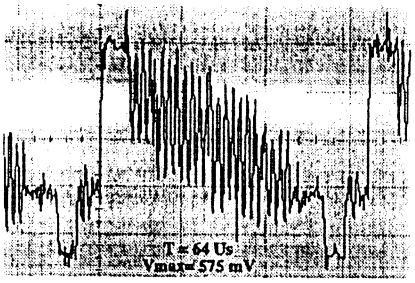
VIDEO	28inch	28inch 16/9 SUPER FLAT	28inch 16/9 PURE FLAT	29inch PURE FLAT	29inch SUPER FLAT	32inch SUPER FLAT	32inch PURE FLAT	33inch
Red Drive	▶015	019	019	019	019	019	019	019
Blue Drive	▶014	017	017	017	016	017	017	017
Green Drive	▶013	015	016	016	015	016	016	016
Red Cutoff	▶015	015	015	015	015	015	015	015
BlueCutoff	▶014	014	014	013	014	014	014	014
Green Cutoff	▶013	013	013	013	013	013	013	013
BCLThreshold	▶+007	+007	+006	+008	+007	+008	+008	+008
YC-Delay	▶000	000	000	000	000	000	000	000
Horizontal OSD Pos.	▶-024	-024	-024	-024	-024	-024	-024	-024
Vertical OSD pos.	▶+004	+004	+004	+004	+004	+004	+004	+004

Table 1

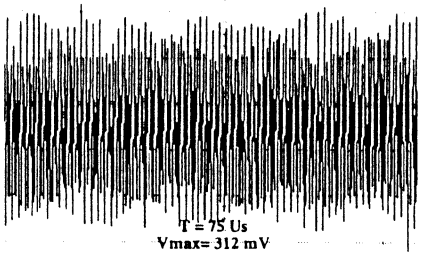
Geometry	28inch	28inch 16/9 SUPER FLAT	28inch 16/9 PURE FLAT	29inch PURE FLAT	29inch SUPER FLAT	32inch SUPER FLAT	32inch PURE FLAT	33inch
V-Size	▶-043	-005	+002	-018	-052	-065	-032	-043
V-Shift	▶+001	+003	+001	-002	-001	+002	000	+001
V-Lin	▶000	000	000	000	000	000	000	000
S-Corretion	▶+040	+028	+028	+040	+040	+028	+028	+040
EW-Width	▶+028	+053	+060	+042	+060	+064	+058	+028
EW-Parabola	▶-062	-049	-048	-053	-052	-047	-043	-062
H-Shift	▶-004	-003	+001	+001	-005	+001	-004	-004
EW-Trapezium	▶-011	-003	-009	-013	-005	-008	-014	-011
EW-Upper Corner	▶+014	+010	+007	+009	+015	+007	+001	+014
EW-Lower Corner	▶+020	+013	+011	+021	+021	+011	+012	+020
Hor;EHT	▶-025	-025	-025	-025	-025	-025	-025	-025
Vert,EHT	▶-020	-020	-020	-020	-020	-020	-020	-020
Bow	▶000	000	000	000	000	000	000	000

Table 2

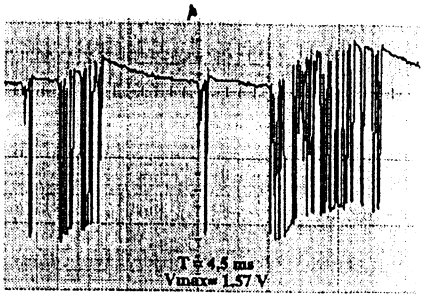
WAVE FORMS



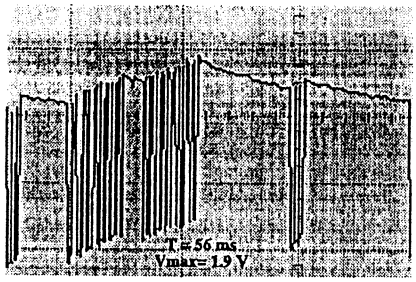
CVBS
CN 703A PIN 2



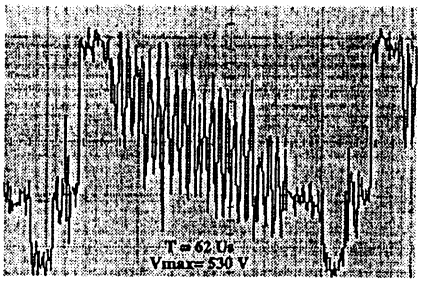
QSS
CN 703A PIN 1



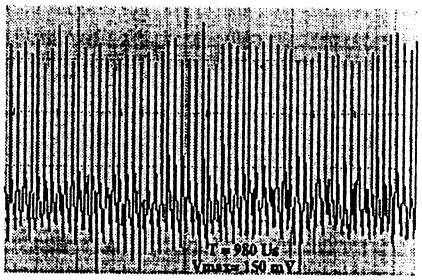
SCL
CN 703A PIN 7



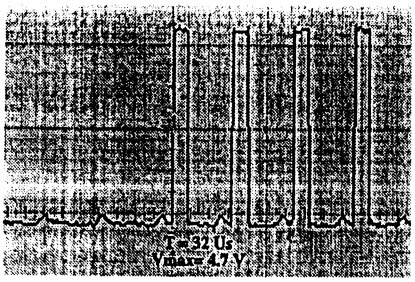
SDA
CN 703A PIN 8



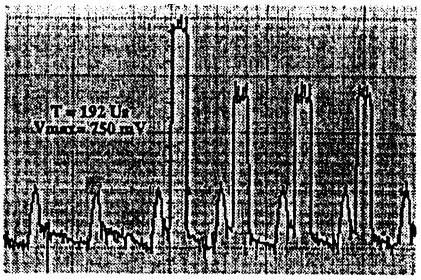
CVBS FB
CN 703A PIN 16



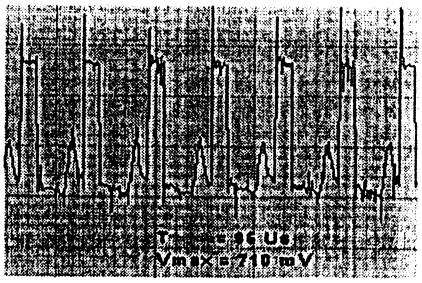
IF 2
TUNER PIN 11



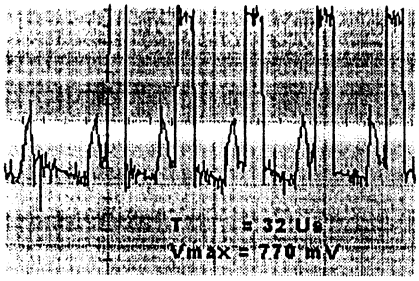
OSD BL
CN 501A PIN 4



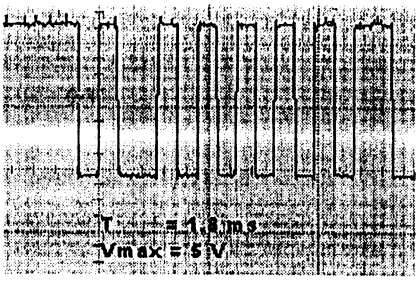
OSD B
CN 501A PIN 3



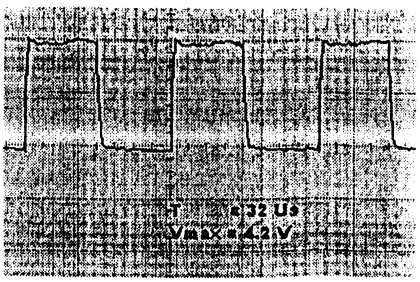
OSD G
CN 501A PIN 2



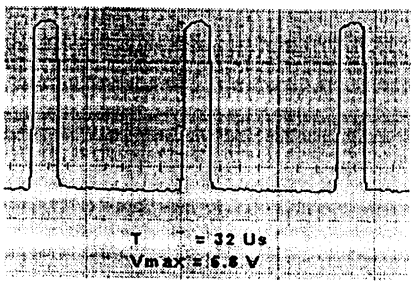
OSD R
CN 501A PIN 1



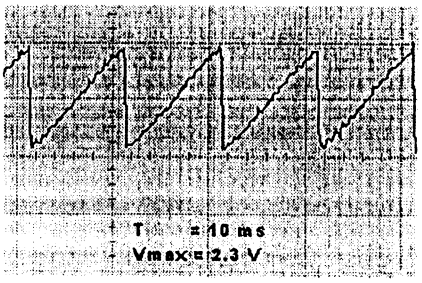
IR LED
CN 502A PIN 7



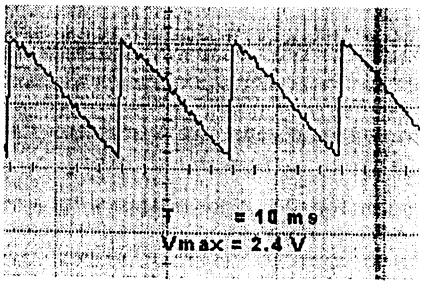
H Drive
CN 802A PIN 8



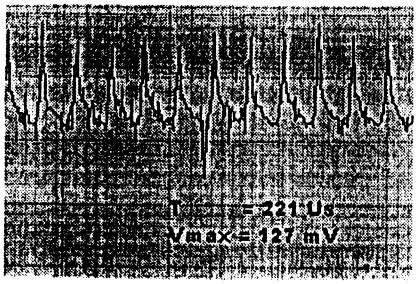
PH12
CN 802A PIN 7



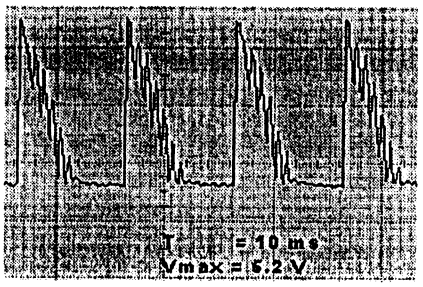
V Drive (-)
CN 802A PIN5



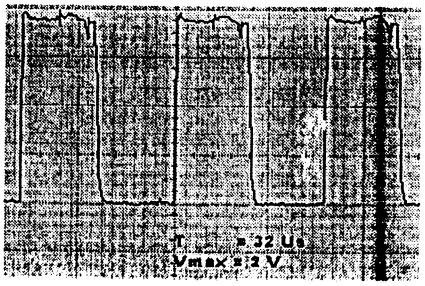
V Drive (+)
CN 802A PIN 4



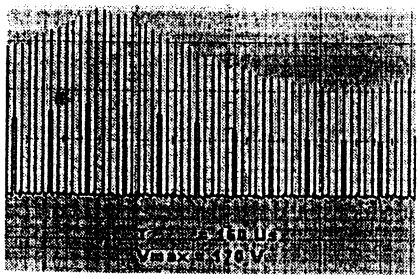
E/W
CN 802A PIN 2



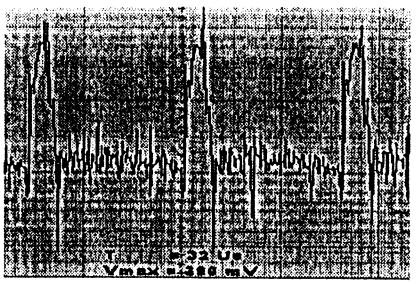
V PROT
CN 802A PIN 6



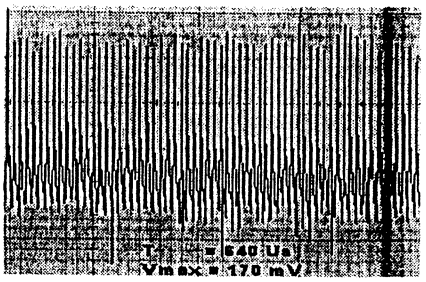
H Drive
Q203 Gate



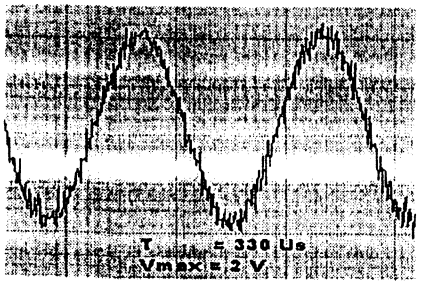
VERT.OUT
D207 Katot



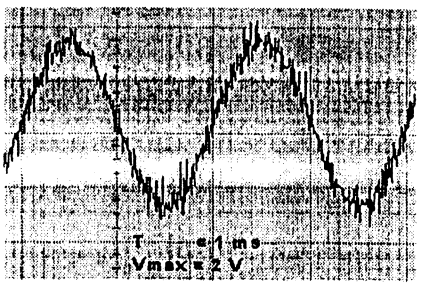
HEATER
CRT X902 PIN 2



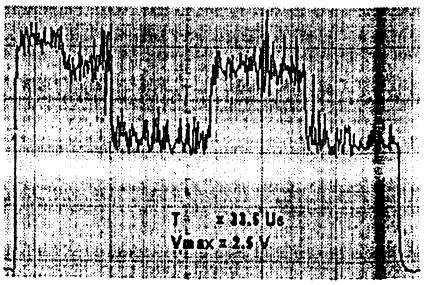
IF 2
TUNER PIN 10



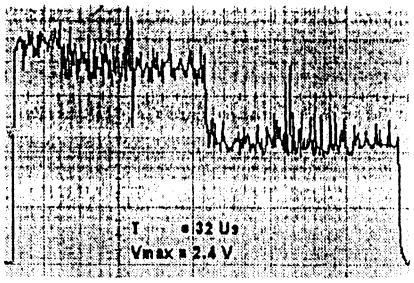
L OUT
CN 701A PIN 5



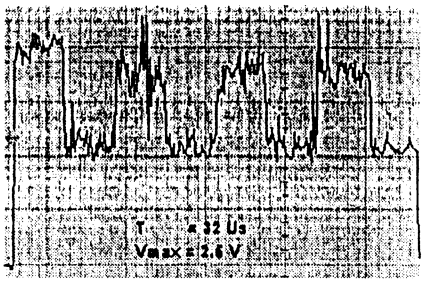
R OUT
CN 701A PIN 6



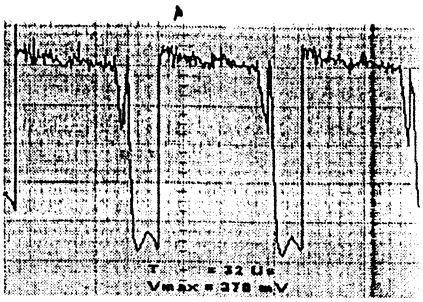
RED
CRT X901 PIN 1



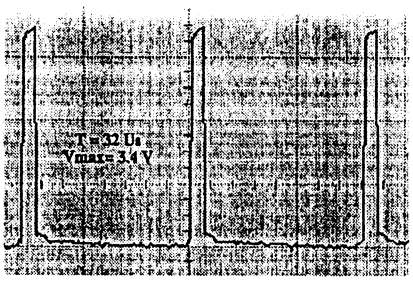
GREEN
CRT X901 PIN 2



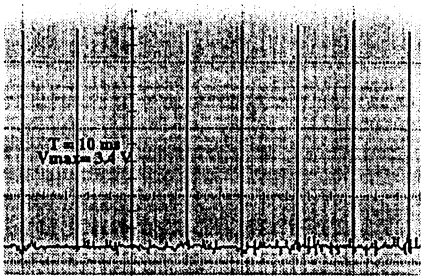
BLUE
CRT X901 PIN 3



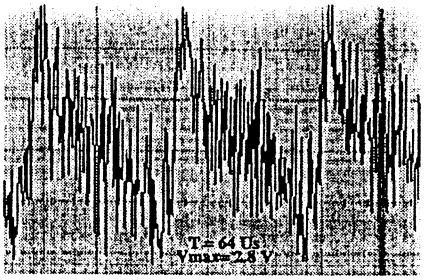
CUT OFF
CRT X901 PIN 4



HS2
CN 501A PIN 11



VS2
CN 501A PIN 12



CVBS TTX
CN 501A PIN 13

CHANNEL TABLE FOR STANDARD B/G (CCIR)

Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)	Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)
C01	AU 0	46.25	85.125	1.362	C61	K61	791.25	830.125	13.282
C02	K2	48325	87.125	1.394	C62	K62	799.25	838.125	13.410
C03	K3	55.25	94.125	1.506	C63	K63	807.25	846.125	13.538
C04	K4	62.25	101.125	1.618	C64	K64	815.25	854.125	13.666
C05	K5	175325	214.125	3.426	C55	K65	823.25	862.125	13.794
C06	K6	182.25	221.125	3.538	C66	K66	831.25	870.125	13.922
C07	K7	189.25	228.125	3.650	C67	K67	839.25	878.125	14.050
C08	K8	196.25	235.125	3.762	C88	K68	847.25	886.125	14.178
C09	K9	203.25	252.125	3.874	C99	K69	855.25	894.125	14.306
C10	K10	210.25	249.125	3.986					
					C70	EX	863.25	902.125	14.434
C11	K11	217.25	256.125	4.098	C71	EX	871.25	910.125	14.562
C12	K12	224.25	263.125	4.210	C72	EX	879.25	918.125	14.690
C13	A	23.75	92.625	1.482	C73	EX	887.25	926.125	14.818
					C74	EX	69.25	108.125	1.730
C14	B	62.25	101.125	1.618					
C15	C	82.25	121.125	1.938	C75	EX	76.25	115.125	1.842
					C76	EX	83.25	122.125	1.954
C16	D	175.25	214.125	3.426	C77	EX	90.25	129.125	2.066
C17	E	183.75	222.625	3.562	C78	EX	97.25	136.125	2.178
C18	F	192.25	231.125	3.698					
C19	G	201.25	240.125	3.842	C79	201	59.25	98.125	1.570
C20	H	210.25	249.125	3.986	C80	501	93.25	132.125	2.114
C21	K21	475.25	510.125	8.162	S01	S1	105.25	144.125	2.306
C22	K22	479.25	518.125	8.290	S02	S2	112.25	151.125	2.418
C23	K23	487.25	526.125	8.418	S03	S3	119.25	158.125	2.530
C24	K24	495.25	534.125	8.546	S04	S4	126.25	165.125	2.642
C25	K25	503.25	542.125	8.674	S05	S5	133.25	172.125	2.754
C26	K26	511.25	550.125	8.802	S06	S6	140.25	179.125	2.866
C27	K27	519.25	558.125	8.930	S07	S7	147.25	186.125	2.978
C28	K28	527.25	566.125	9.058	S08	S8	154.25	193.125	3.090
C29	K20	535.25	574.125	9.186	S09	S9	161.25	200.125	3.202
C30	R30	543.25	582.125	9.314	S10	S10	168.25	207.125	3.314
C31	R31	551.25	590.125	9.442	S11	S11	231.25	270.125	4.322
C32	K32	559.25	598.125	9.570	S12	S12	238.25	277.125	4.434
C33	K33	567.25	606.125	9.698	S13	S13	245.25	284.125	4.546
C34	K34	575.25	614.125	9.826	S14	S14	252.25	291.125	4.658
C35	K35	583.25	622.125	9.954	S15	S15	259.25	298.125	4.770
C36	K36	591.25	630.125	10.082	S16	S16	266.25	305.125	4.882
C37	K37	599.25	638.125	10.210	S17	S17	273.25	312.125	4.994
C38	K38	607.25	646.125	10.338	S18	S18	280.25	319.125	5.106
C39	K39	615.25	654.125	10.466	S19	S19	287.25	326.125	5.218
C40	K40	623.25	662.125	10.594	S20	S20	294.25	333.125	5.330
C41	K41	631.25	670.125	10.722	S21	S21	303.25	342.125	5.474
C42	K42	639.25	678.125	10.850	S22	S22	311.25	350.125	5.602
C43	K43	647.25	686.125	10.978	S23	S23	319.25	358.125	5.730
C44	K44	655.25	694.125	11.106	S24	S24	327.25	366.125	5.858
C45	K45	663.25	702.125	11.234	S25	S25	335.25	374.125	5.986
C46	K46	671.25	710.125	11.362	S26	S26	343.25	382.125	6.050
C47	K47	679.25	718.125	11.490	S27	S27	351.25	390.125	6.242
C48	K48	687.25	726.125	11.618	S28	S28	359.25	398.125	6.370
C49	K49	695.25	734.125	11.746	S29	S29	367.25	406.125	6.498
C50	K50	703.25	742.125	11.874	S30	S30	375.25	414.125	6.626
C51	K51	711.25	750.125	12.002	S31	S31	383.25	422.125	6.754
C52	K52	719.25	758.125	12.130					
C53	K53	727.25	766.125	12.258	S32	S32	391.25	430.125	6.882
C54	K54	735.25	774.125	12.386	S33	S33	399.25	438.125	7.010
C55	K55	743.25	782.125	12.514	S34	S34	407.25	446.125	7.138
					S35	S35	415.25	454.125	7.266
C56	K56	751.25	790.125	12.642	S36	S36	423.25	462.125	7.394
C57	K57	759.25	798.125	12.770					
C58	K58	767.25	806.125	12.898	S37	S37	431.25	470.125	7.522
C59	K59	775.25	814.125	13.026	S38	S38	439.25	478.125	7.650
C60	K60	783.25	822.125	13.154	S39	S39	447.25	486.125	7.778
					S40	S40	455.25	494.125	7.906
					S41	S41	463.25	502.125	8.034

CHANNEL FOR STANDARD I+

Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)	Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)
C01	R1	49.75	88.625	1.362	C61	R61	791.25	830.125	13.282
C02	R2	59.25	98.125	1.570	C62	R62	799.25	838.125	13.410
C03	R3	77.25	116.125	1.858	C63	R63	807.25	846.125	13.538
C04	R4	85.25	124.125	1.986	C64	R64	815.25	854.125	13.666
C05	R5	93.25	132.125	2.114	C55	R65	823.25	862.125	13.794
C06	R6	175.25	214.125	3.426	C66	R66	831.25	870.125	13.922
C07	R7	183.25	222.625	3.554	C67	R67	839.25	878.125	14.050
C08	R8	191.25	230.125	3.682	C68	R68	847.25	886.125	14.178
C09	R9	199.25	238.125	3.810	C69	R69	855.25	894.125	14.306
C10	R10	207.25	246.125	3.938	C70	170	863.25	902.125	14.434
C11	R11	215.25	254.125	4.066	C71	171	871.25	910.125	14.562
C12	R12	223.25	262.125	4.194	C72	172	879.25	918.125	14.690
					C73	173	887.25	926.125	14.818
C21	R21	471.25	510.125	8.162					
C22	R22	469.25	518.125	8.290	S01	S1	103.25	142.125	2.274
C23	R23	487.25	526.125	8.418	S02	S2	111.25	150.125	2.402
C24	R24	495.25	534.125	8.546	S03	S3	119.25	158.125	2.530
C25	R25	503.25	542.125	8.674	S04	S4	127.25	166.125	2.658
					S05	S5	135.25	174.125	2.786
C26	R26	511.25	550.125	8.802	S06	S6	143.25	182.125	2.914
C27	R27	519.25	558.125	8.930					
C28	R28	527.25	566.125	9.058	S07	S7	151.25	190.125	3.042
C29	R29	535.25	574.125	9.186	S08	S8	159.25	198.125	3.170
C30	R30	543.25	582.125	9.314	S09	S9	167.25	206.125	3.298
					S10	S10	231.25	270.125	4.322
C31	R31	551.25	590.125	9.442					
C32	R32	559.25	793.125	9.570	S11	S11	239.25	278.125	4.450
C33	R33	567.25	606.125	9.698	S12	S12	247.25	286.125	4.578
C34	R34	575.25	614.125	9.826	S13	S13	255.25	294.125	4.706
C35	R35	583.25	622.125	9.954	S14	S14	263.25	302.125	4.834
					S15	S15	271.25	310.125	4.962
C36	R36	591.25	630.125	10.082					
C37	R37	599.25	638.125	10.210	S16	S16	279.25	318.125	5.090
C38	R38	607.25	646.125	10.338	S17	S17	287.25	325.125	5.218
C39	R39	615.25	654.125	10.466	S18	S18	295.25	334.125	5.346
					S19	S19	303.25	342.125	5.474
C40	R40	623.25	662.125	10.594					
C41	R41	631.25	670.125	10.722	S11	S11	311.25	350.125	5.602
C42	R42	639.25	678.125	10.850	S23	S23	319.25	358.125	5.730
C43	R43	647.25	686.125	10.978	S24	S24	327.25	366.125	5.858
C44	R44	655.25	694.125	11.106	S25	S25	335.25	374.125	5.986
					S26	S26	343.25	382.125	6.050
C45	R45	663.25	702.125	11.234					
C46	R46	671.25	710.125	11.362	S27	S27	351.25	390.125	6.242
C47	R47	679.25	718.125	11.490	S28	S28	359.25	398.125	6.370
C48	R48	687.25	726.125	11.618	S29	S29	367.25	406.125	6.498
C49	R49	695.25	734.125	11.746	S30	S30	375.25	414.125	6.626
					S31	S31	383.25	422.125	6.754
C50	R50	703.25	742.125	11.874					
C51	R51	711.25	750.125	12.002	S32	S32	391.25	430.125	6.882
C52	R52	719.25	758.125	12.130	S33	S33	399.25	438.125	7.010
C53	R53	727.25	766.125	12.258	S34	S34	407.25	446.125	7.138
C54	R54	735.25	774.125	12.386	S35	S35	415.25	454.125	7.266
C55	R55	743.25	782.125	12.514	S36	S36	423.25	462.125	7.394
C56	R56	751.25	790.125	12.642	S37	S37	431.25	470.125	7.522
C57	R57	759.25	798.125	12.770	S38	S38	439.25	478.125	7.650
C58	R58	767.25	806.125	12.898	S39	S39	447.25	486.125	7.778
C59	R59	775.25	814.125	13.026	S40	S40	455.25	494.125	7.906
C60	R60	783.25	822.125	13.154	S41	S41	463.25	502.125	8.034

CHANNEL FOR STANDARD D/K (OIRT)

Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)
C01	R1	49.75	88.625	1.418
C02	R2	59.25	98.125	1.570
C03	R3	77.25	116.125	1.858
C04	R4	85.25	124.125	1.986
C05	R5	93.25	132.125	2.114
C06	R6	175.25	214.125	3.426
C07	R7	183.25	222.625	3.554
C08	R8	191.25	230.125	3.682
C09	R9	199.25	238.125	3.810
C10	R10	207.25	246.125	3.938
C11	R11	215.25	254.125	4.066
C12	R12	223.25	262.125	4.194
C21	R21	471.25	510.125	8.162
C22	R22	479.25	518.125	8.290
C23	R23	487.25	526.125	8.418
C24	R24	495.25	534.125	8.546
C25	R25	503.25	542.125	8.674
C26	R26	511.25	550.125	8.802
C27	R27	519.25	558.125	8.930
C28	R28	527.25	566.125	9.058
C29	R29	535.25	574.125	9.186
C30	R30	543.25	582.125	9.314
C31	R31	551.25	590.125	9.442
C32	R32	559.25	598.125	9.570
C33	R33	567.25	606.125	9.698
C34	R34	575.25	614.125	9.826
C35	R35	583.25	622.125	9.954
C36	R36	591.25	630.125	10.082
C37	R37	599.25	638.125	10.210
C38	R38	607.25	646.125	10.338
C39	R39	615.25	654.125	10.466
C40	R40	623.25	662.125	10.594
C41	R41	631.25	670.125	10.722
C42	R42	639.25	678.125	10.850
C43	R43	647.25	686.125	10.978
C44	R44	655.25	694.125	11.106
C45	R45	663.25	702.125	11.234
C46	R46	671.25	710.125	11.362
C47	R47	679.25	718.125	11.490
C48	R48	687.25	726.125	11.618
C49	R49	695.25	734.125	11.746
C50	R50	703.25	742.125	11.874
C51	R51	711.25	750.125	12.002
C52	R52	719.25	758.125	12.130
C53	R53	727.25	766.125	12.258
C54	R54	735.25	774.125	12.386
C55	R55	743.25	782.125	12.514
C56	R56	751.25	790.125	12.642
C57	R57	759.25	798.125	12.770
C58	R58	767.25	806.125	12.898
C59	R59	775.25	814.125	13.026
C60	R60	783.25	822.125	13.154
C61	K61	791.25	803.125	13.282
C62	K62	299.25	838.125	13.410
C63	K63	807.25	846.125	13.538
C64	K64	815.25	854.125	13.666
C65	K65	823.25	862.125	13.794

Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)
C61	R61	791.25	830.125	13.262
C62	R62	799.25	838.125	13.410
C63	R63	807.25	846.125	13.538
C64	R64	815.25	854.125	13.666
C55	R65	823.25	862.125	13.794
C66	R66	831.25	870.125	13.922
C67	R67	839.25	878.125	14.050
C68	R68	847.25	886.125	14.178
C69	R69	855.25	894.125	14.306
S01	S1	103.25	142.125	2.274
S02	S2	111.25	150.125	2.402
S03	S3	119.25	158.125	2.530
S04	S4	127.25	166.125	2.658
S05	S5	135.25	174.125	2.786
S06	S6	143.25	182.125	2.914
S07	S7	151.25	190.125	3.042
S08	S8	159.25	198.125	3.170
S09	S9	167.25	206.125	3.298
S10	S10	231.25	270.125	4.322
S11	S11	239.25	278.125	4.450
S12	S12	247.25	286.125	4.578
S13	S13	255.25	294.125	4.706
S14	S14	263.25	302.125	4.834
S15	S15	271.25	310.125	4.962
S16	S16	279.25	318.125	5.090
S17	S17	287.25	325.125	5.218
S18	S18	295.25	334.125	5.346
S19	S19	303.25	342.125	5.474
S22	S22	311.25	350.125	5.602
S23	S23	319.25	358.125	5.730
S24	S24	327.25	366.125	5.858
S25	S25	335.25	374.125	5.986
S26	S26	343.25	382.125	6.050
S27	S27	351.25	390.125	6.242
S28	S28	359.25	398.125	6.370
S29	S29	367.25	406.125	6.498
S30	S30	375.25	414.125	6.626
S31	S31	383.25	422.125	6.754
S32	S32	391.25	430.125	6.882
S33	S33	399.25	438.125	7.010
S34	S34	407.25	446.125	7.138
S35	S35	415.25	454.125	7.266
S36	S36	423.25	462.125	7.394
S37	S37	431.25	470.125	7.522
S38	S38	439.25	478.125	7.650
S39	S39	447.25	486.125	7.778
S40	S40	455.25	494.125	7.906
S41	S41	463.25	502.125	8.034

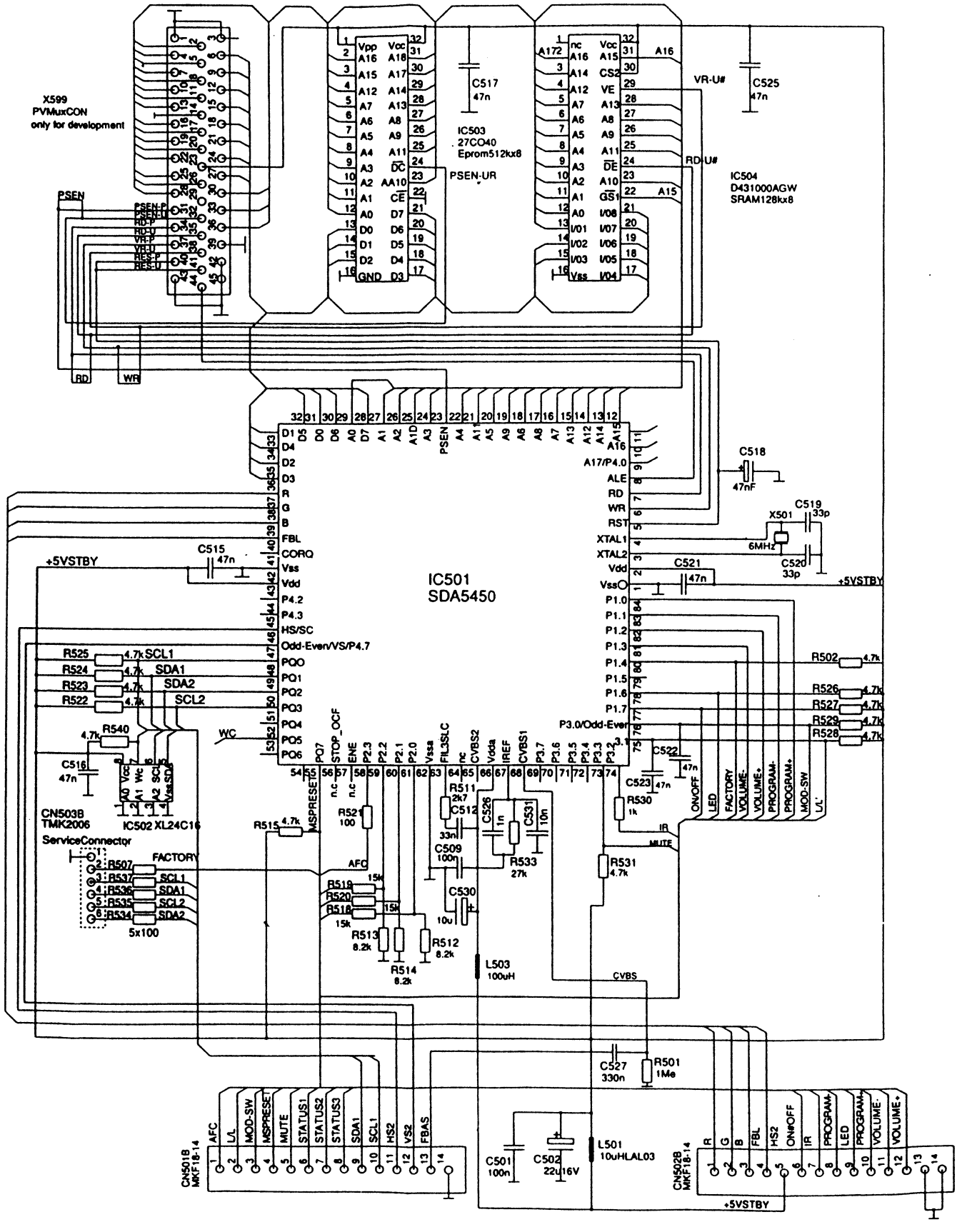
CHANNEL TABLE FOR STANDARD L

Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)
C02	L2	55.75	90.125	1.442
C03	L3	60.50	94.875	1.518
C04	L4	63.75	98.125	1.570
C05	L5	176.00	214.875	3.438
C06	L6	184.00	222.875	3.566
C07	L7	192.00	230.875	3.694
C08	L8	200.00	238.875	3.822
C09	L9	208.00	246.875	3.950
C10	L10	216.00	254.875	4.078
C11	LUX	189.25	228.125	3.650
C12	K6	182.25	221.125	3.538
C13	K8	196.25	235.125	3.762
C14	K10	210.25	249.125	3.986
C21	K21	471.25	510.125	8.162
C22	K22	479.25	518.125	8.290
C23	K23	487.25	526.125	8.418
C24	K24	495.25	534.125	8.546
C25	K25	503.25	543.025	8.674
C26	K26	511.25	550.125	8.802
C27	K27	519.25	558.125	8.930
C28	K28	527.25	566.125	9.058
C29	K29	535.25	574.125	9.186
C30	K30	543.25	583.025	9.314
C31	K31	551.25	590.125	9.442
C32	K32	559.25	598.125	9.570
C33	K33	567.25	606.125	9.698
C34	K34	575.25	614.125	9.826
C35	K35	583.25	623.025	9.954
C36	K36	591.25	630.125	10.082
C37	K37	599.25	638.125	10.210
C38	K38	607.25	646.125	10.338
C39	K39	615.25	654.125	10.466
C40	K40	623.25	662.125	10.594
C41	K41	631.25	670.125	10.722
C42	K42	639.25	678.125	10.850
C43	K43	647.25	686.125	10.978
C44	K44	655.25	694.125	11.106
C45	K45	663.25	702.125	11.234
C46	K46	671.25	710.125	11.362
C47	K47	679.25	718.125	11.490
C48	K48	687.25	726.125	11.618
C49	K49	695.25	734.125	11.746
C50	K50	703.25	742.125	11.874
C51	K51	711.25	750.125	12.002
C52	K52	719.25	758.125	12.130
C53	K53	727.25	766.125	12.258
C54	K54	735.25	774.125	12.386
C55	K55	743.25	782.125	12.514
C56	K56	751.25	790.125	12.642
C57	K57	759.25	798.125	12.770
C58	K58	767.25	806.125	12.898
C59	K59	775.25	814.125	13.026
C60	K60	783.25	822.125	13.154

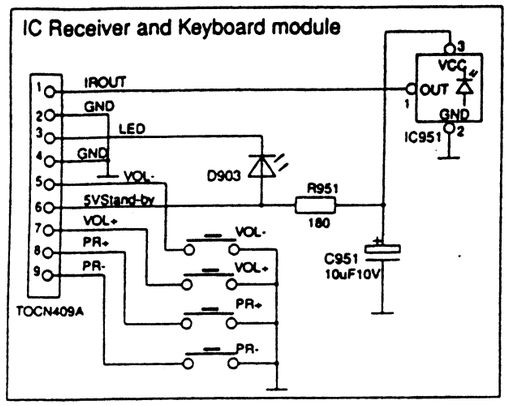
Channel number (display)	Channel design.	Centre frequency (MHz)	Oscillator frequency (MHz)	Division ratio PLL (decimal)
C61	K61	791.25	830.125	13.282
C62	K62	799.25	838.125	13.410
C63	K63	807.25	846.125	13.538
C64	K64	815.25	854.125	13.666
C55	K65	823.25	862.125	13.794
C66	K66	831.25	870.125	13.922
C67	K67	839.25	878.125	14.050
C68	K68	847.25	886.125	14.178
C69	K69	855.25	894.125	14.306
C70	EX	863.25	902.125	14.434
S01	B	116.75	155.625	2.490
S02	C	128.75	167.625	2.682
S03	D	140.75	179.625	2.874
S04	E	152.75	191.625	3.066
S05	F	164.75	203.625	3.258
S06	G	176.75	215.625	3.450
S07	S	188.75	227.625	3.642
S08	I	200.75	239.625	3.834
S09	J	212.75	251.625	4.026
S10	K	224.75	263.625	4.218
S11	L	236.75	275.625	4.410
S12	M	248.75	287.625	4.602
S13	N	260.75	299.625	4.794
S14	O	272.75	311.625	4.986
S15	P	284.75	323.625	5.178
S16	Q	296.75	335.625	5.370
S21	S21	303.25	343.025	5.474
S22	S22	311.25	350.125	5.602
S23	S23	319.25	358.125	5.730
S24	S24	327.25	366.125	5.858
S25	S25	335.25	374.125	5.986
S26	S26	343.25	383.025	6.050
S27	S27	351.25	390.125	6.242
S28	S28	359.25	398.125	6.370
S29	S29	367.25	406.125	6.498
S30	S30	375.25	414.125	6.626
S31	S31	383.25	423.025	6.754
S32	S32	391.25	430.125	6.882
S33	S33	399.25	438.125	7.010
S34	S34	407.25	446.125	7.138
S35	S35	415.25	454.125	7.266
S36	S36	423.25	463.025	7.394
S37	S37	431.25	470.125	7.522
S38	S38	439.25	478.125	7.650
S39	S39	447.25	486.125	7.778
S40	S40	455.25	494.125	7.906
S41	S41	463.25	503.025	8.034

20.2 CTV CHASSIS 110°

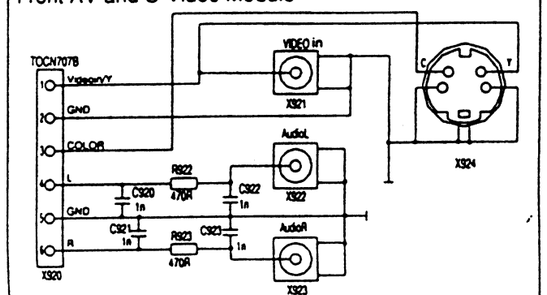
MICRO PC MODUL



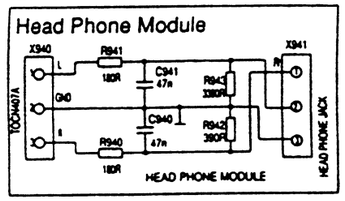
IC Receiver and Keyboard module



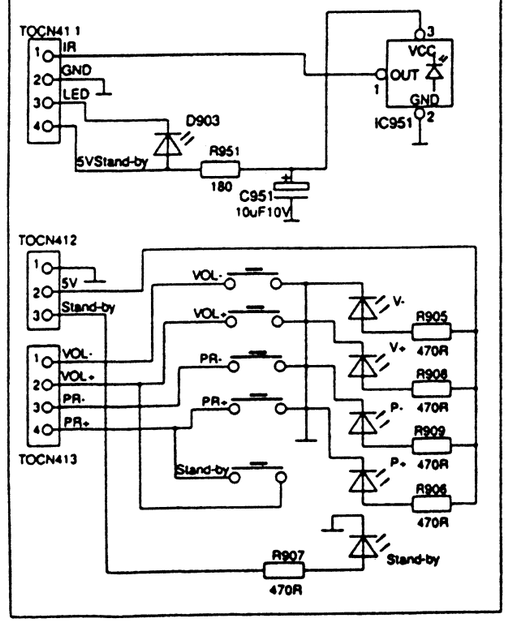
Front AV and S-Video Module



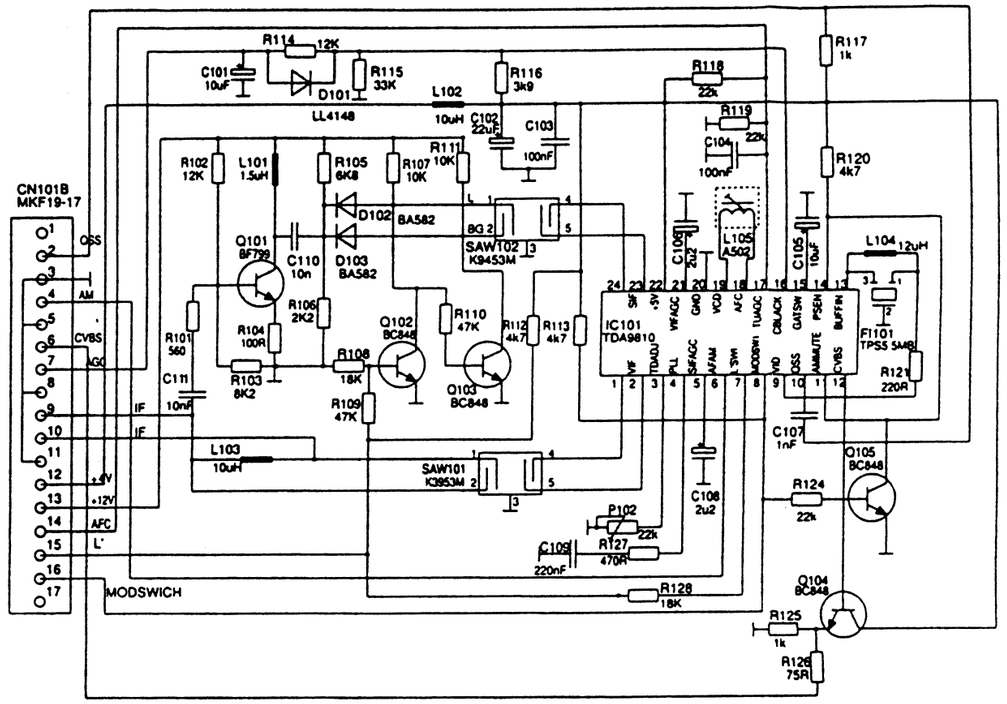
Head Phone Module



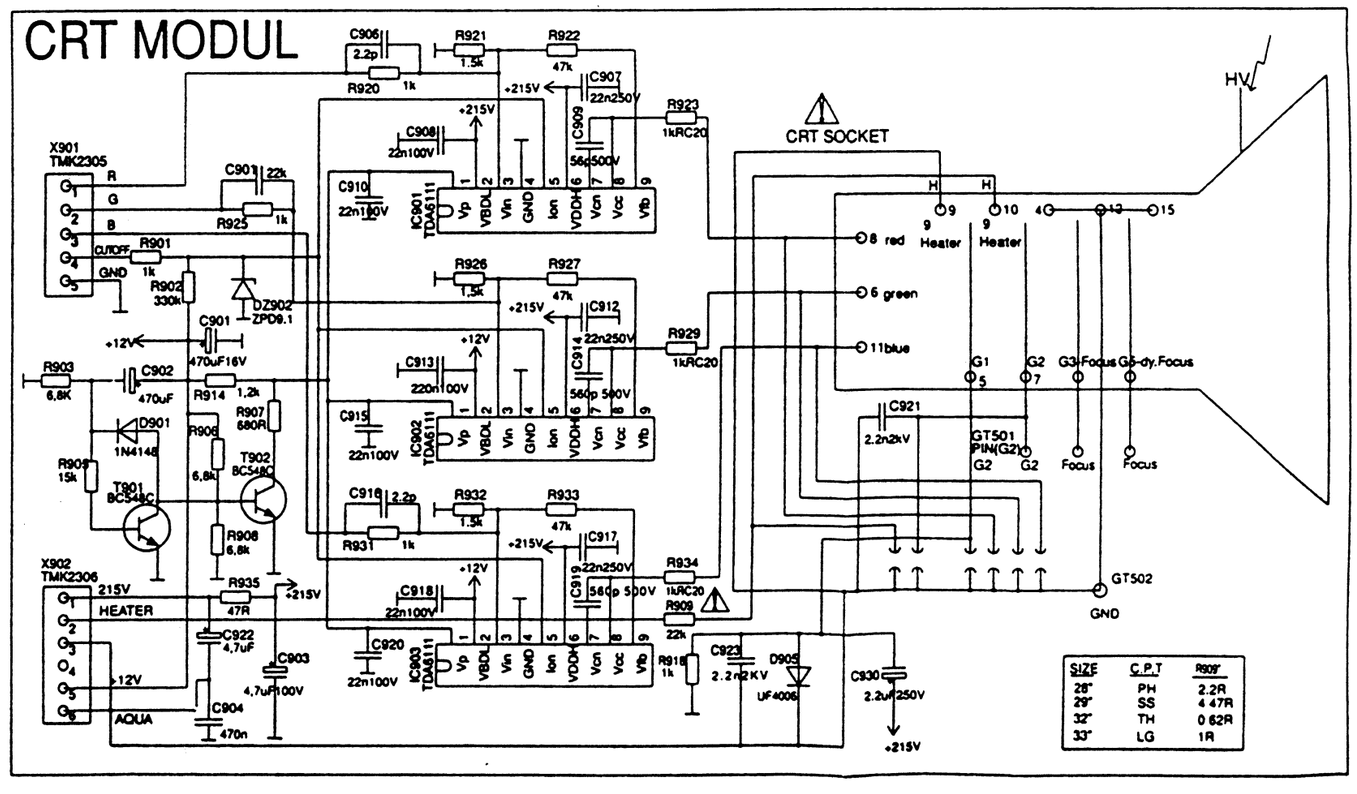
IR Receiver Module for Only Pure Flats



IF MODUL



CRT MODUL



SIZE	C.P.T	R909
28"	PH	2.2R
29"	SS	4.47R
32"	TH	0.62R
33"	LG	1R

CHROMA DECODER&FEATUREBOX

IC801
VPC32XXD

IC803
SDA9401
Scan Rate Converter

DDPB 3310P
IC804

IC800P

IC802
L49CV33

TMK2305
CN801B

TMK2012
CN802A

TMK2010
CN801A

TMK2017
CN800A

CHRONAC1071

OPTIONAL
VGA

L802 R_SCART
L803 G_SCART
L804 B_SCART
FBL_SC

CUTOFF/SENSE
B_CRT
G_CRT
R_CRT

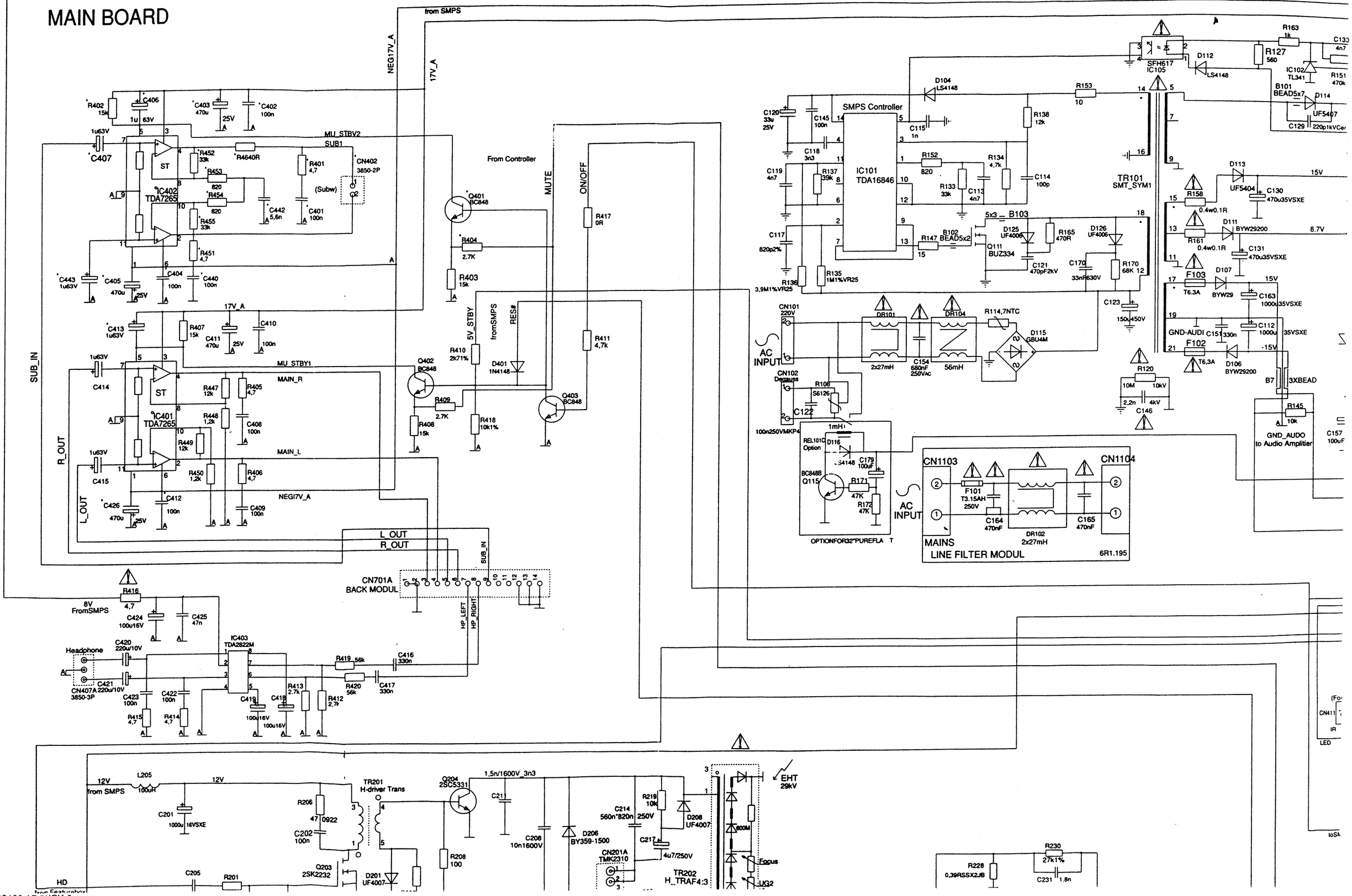
12C/RSDA,SCL,RES_L

VGA_VERT

+5VD_DDP

LAT-00198 / DRUCK 1

MAIN BOARD


from SMPS
NEG17V_A
17V_A
SUB_IN
R_OUT
L_OUT
MU_STBY2
SUB1
MU_STBY1
MAIN_R
MAIN_L
NEGI7V_A
From Controller
MUTE
ON/OFF
5V_STBY
fromSMPS
RES#
IC402 TDA7265
IC401 TDA7265
Q401 BC848
Q402 BC848
Q403 BC848
D401 1N4148
CN402 3850-2P
SMPS Controller
IC101 TDA16846
TR101 SMT_SYM1
SFH617 IC105
IC102 TL341
D115 GBU4M
AC INPUT
CN102 Degauss
CN101 220V
DR101
DR104
2x27mH
56mH
CN1103
CN1104
F101 T3.15AH 250V
DR102 2x27mH
MAINS LINE FILTER MODUL 6R1.195
OPTIONFOR32"PUREFLA T
CN701A BACK MODUL
HP_LEFT
HP_RIGHT
Headphone
CN407A 3850-3P
IC403 TDA2822M
8V FromSMPS
GND-AUDI
GND_AUDO to Audio Amplifier
B101 BEAD5x7
B102 BEAD5x2
B103
B7 3XBEAD
F102 T6.3A
F103 T6.3A
12V from SMPS
TR201 H-driver Trans
TR202 H_TRAF4:3
Q204 2SC5331
Q203 2SK2232
D201 UF4007
D206 BY359-1500
D208 UF4007
CN201A TMK2310
EHT 29kV
Focus
HD

controller
MUTE
ON/OFF
R417 0R
R411 4,7k
RES#
Q403 BC848
SMPS Controller
IC101 TDA16846
C120 33u 25V
C145 100n
C118 3n3
C119 4n7
R137 39k
C117 820p2%
R136 3,9M1%VR25
R135 1M1%VR25
C115 1n
R138 12k
R152 820
R133 33k
C113 4n7
R134 4,7k
C114 100p
R147 B102 BEAD5x2
R153 10
D104 LS4148
TR101 SMT_SYM1
5x3 = B103
D125 UF4006
Q111 BUZ334
R165 470R
C121 470pF2kV
D126 UF4006
C170 33nF630V
R170 68K
C123 150u 450V
SFH617 IC105
D112 LS4148
R120 10M 10kV
2,2n 4kV
C146
CN101 220V
AC INPUT
DR101 2x27mH
DR104 56mH
C154 680nF 250Vac
R114,7NTC
D115 GBU4M
CN102 Degauss
R108 S6126
C122 100n250VMKP4
1mH
REL101C Option
D116 LS4148
C179 100uF
BC848B Q115
R171 47K
R172 47K
OPTIONFOR32"PUREFLA T
CN1103
CN1104
F101 T3.15AH 250V
C164 470nF
DR102 2x27mH
C165 470nF
MAINS LINE FILTER MODUL 6R1.195
R163 1k
R127 560
IC102 TL341
C133 4n7
R141 100k
R129 3,3k
R151 470k
C132 220p
R150 1k
R125 220k
B101 BEAD5x7
D114 UF5407
C129 220p1kVCer
+UBHOR 145V4:3 130V16:9
R157 150k
C134 100u200VKM
BZT55C10 D120
D101 LS4148
Q112 2SK2232
15V
D113 UF5404
C130 470u35VSXE
R158 0.4w0.1R
D111 BYW29200
8.7V
R161 0.4w0.1R
C131 470u35VSXE
F103 T6.3A
D107 BYW29
15V
C163 1000u35VSXE
GND-AUDI
C151 330n
C112 1000u 35VSXE
F102 T6,3A
D106 BYW29200
-15V
B7 3XBEAD
R145 10k
GND_AUDO to Audio Amplifier
C140 470u25V
R155 10k1%
C116 1n
Q110 BC848C
Q114 BC848C
C158 1000u16V
12V
IC103 780B
8V
C159 1000u16V
C162 100n
C161 100n
C160 100u 16V
R142 4,3k1%
R156 4.3k1%
R154 680
BZT55C10 D121
D102 LS4148
R148 100
Q113 2SK2232
C136 2.2n
Q108 BC848C
Q109 BC848B
5V
R135 1k1%
D103 S8130
Q107 BC848C
R130 10k
C156 1000u 16V
R131 10k
R164 2,55k1%
R132 680
R140 1k1%
IC106 L4931CV5
C157 100uF16V
C138 100n
C150 100n
C139 1uF16V
R143 2,7k1%
5V-STBY
ON/OFF
StandbyHIGH
UBHOR
Frontpanel CN409A 3850-9P
R955 1.5K
Q912 BC558B
R953 1K
R952 10k
R954 270
5V-STBY
12V
(Foronlypureflats)
CN411
IR
5VStandby
LED
VOLUME-
5V
VOLUME+
PROGRAM+
PROGRAM-
IR
ON/OFF
toSMPS.AudioPower5V_STBY
OSD_BL
OSD_B
OSD_G
OSD_R
CN413 (Foronlypureflats)
V-
V+
P-
P+
D132 1N4148
D131 1N4148
D129 1N4148
D130 1N4148
5Vstandby
D127 1N4148
D128 1N4148
Featurebox
DSD_BL
DSD_B
DSD_G
DSD_R
C208 10n1600V
D206 BY359-1500
C214 560n*820n 250V
R219 10k
D208 UF4007
C217
4u7/250V
CN201A TMK2310
TR202 H_TRAF4:3
L203
EHT 29kV
600M
Focus
UG2
R230 27k1%
R228 0,39RSSX2J8
C231 1.8n
R234
CLAT-00198 / DRUCK 3

L_OUT
R_OUT
SUB_IN
CN701A
BACK MODUL
HP_LEFT
HP_RIGHT
OPTIONFOR32"PUREFLA T
MAINS
LINE FILTER MODUL
6R1.195
C164
470nF
DR102
2x27mH
C165
470nF
8V
FromSMPS
R416
4,7
C424
100u16V
C425
47n
IC403
TDA2822M
Headphone
CN407A
3850-3P
C420
220u/10V
C421
220u/10V
C423
100n
C422
100n
R415
4,7
R414
4,7
C419
100u16V
C418
100u16V
R413
2,7k
R412
2,7k
R419
56k
R420
56k
C416
330n
C417
330n
12V
from SMPS
L205
100uH
C201
1000u 16VSXE
TR201
H-driver Trans
Q204
2SC5331
1,5n/1600V_3n3
C211
C208
10n1600V
D206
BY359-1500
R206
47 0922
C202
100n
Q203
2SK2232
D201
UF4007
R207
0,56 RSSX
R208
100
C205
33n
R201
10k
D202
LS4148
R205
10k
HD
from Featurebox
+UBHOR
from SMPS
F104
T1A
R209
220
C203
10u 16V
R211
2,2k
R212
2,2k
R213
4,7k
D205
BZT55C5,1
Q206
BC858
Q207
C858
R215
2,2k
R233
6k8
C204
68n
D203
BZT55C10
C206
47n
C207
1u/63V
R214
6,8k
R216
2,2k
Q208
BDX53B
C210
1u/63V
R217
100k
C212
220p
L201
6mH
R218
3,9SKS2
R210
10
C215
680n
250V
B201
BEAD5x3
C209
27n400V MKP10
D207
STTA506F
CN201A
TMK2310
C214
560n*820 250V
C217
4u7/250V
TR202
H_TRAF4:3
L203
1mH
C220
470u 200V
L202
4,2uH
R222
220237-0
L204
150uH
R219
10k
D208
UF4007
EHT
29kV
600M
Focus
UG2
C219
100p1kVCer
R221
RMF3,9R
D209
UF4007
C218
10u 250V
R220
470k
R223
RWR 0,22R
D210
UF5402
C224
100p1kVCer
C226
1000u16VSXE
R225
RWR0,22R
B203
B202
D212
UF4007
C228
100u63V
C225
100p 1kV Cer
R224
RWR 0,22R
D211
UF5402
C227
1000u16VSXE
Core
CN202A
TMK2006
R228
0,39RSSX2JB
R230
27k1%
C231
1,8n
R231
390R
VERT_OUT
IC201
STV9379FA
VerticalDeflection
C232
220n
R232
2,2
10V
C229
1000u 16V
C230
100n
D213
uF4007
C234
C233
1000u 16V
100n
R234
100k1%
R235
100k1%
C236
1,8n
R236
27k
R251
6k8
R252
6k8
33*52V
29*47V
+39V
C235
100n
R241
600k
+200V
+10V
Q209
FC848
D402
LS4148
R242
8k2
R243
150
+33V
D218
BZT55C33
C434
22uF 50V
C431
C430
100n
toAudioPower
MUTE
from Feturabox
E/W
R238
5k6
VPROT
D214
BZT55C5,1
R244
PH2*
1k
L220
10uH
VERT_OUT
PH12
toFeaturebox
TMK2306Mod.Input
*CN203AfromFocusmodule
dyn.Focus16:9

OPTIONFOR32"PUREFLA T

MAINS
LINE FILTER MODUL

470nF
DR102
2x27mH
470nF
6R1.195

Frontpanel
CN409A
3850-9P

R955 1.5K

Q912
BC558B

R953
1K

R952
10k

R954
270

5V-STBY

12V

VOLUME-

VOLUME+

PROGRAM+

PROGRAM-

(Forontypureflats)
CN411
IR
5VStandby
LED

CN413
(Forontypureflats)
V-
V+
P-
P+

(Forontypureflats)
CN412
5Vstandby

D132 1N4148
D131 1N4148
D129 1N4148
D130 1N4148
D127 1N4148
D128 1N4148

5V
12V

Featurebox

IR
ON/OFF
toSMPS,AudioPower5V_STBY

OSD_BL
OSD_B
OSD_G
OSD_R

TMK2014
CN502A

DSD_BL
DSD_B
DSD_G
DSD_R
CVBS_TTX
VS2
HS2
SCL
SDA

CVBS_TTX
VS2
HS2
SCL
SDA
STATUS2
STATUS1
MUTE
RES#
MODE-SW
L/L
AFC

CN501A
TMK2014

TMK2017
CN801A
Featurebox

HD
PH12
VPROT
VD-
VD+
E/W

TMK2010
CN802A

VGA_R
VGA_G
VGA_B
VGA_V
VGA_H

TMK2012
CN803A

CN410
SUB_D15
VGAConnector

CN703A
BACK MODUL

QSS
CVBS_TER
RES#
STATUS1
STATUS2
SCL
SDA
5V
8V
SC_B
SC_G
SC_R
SCART_BL
CHROMA
CVBS_FB

toAudioPower
MUTE

+33V
fromdeflection
IF2
IF1
33V
5V
SDA
SCL
AGC
R422 1K
C433 100n
C434 22uF 50V
C431
C430 100n
C432 100n
TUNER
TU401
L401 10uH
CVBS_TER
QSS

EHT
29kV

C208 10n1600V
D206 BY359-1500
C214 560n*820n 250V
R219 10k
D208 UF4007
C217 4u7/250V
CN201A
TMK2310
TR202
H_TRAF4:3
600M
Focus
UG2
L203 1mH
+UBHOR
C220 470u 200V
L202 4,2uH
R222 220237-0
R221 RMF3,9R
D209 UF4007
C219 100p1kVCer
C218 10u 250V
R220 470k
R223 RWR 0,22R
D210 UF5402
C224 100p1kVCer
C226 1000u16VSXE
R225 RWR0,22R
B203
B202
D212 UF4007
C228 100u 63V
R224 RWR 0,22R
D211 UF5402
C225 100p 1kV Cer
C227 1000u16VSXE
Core
CN202A
TMK2006
R210 10
C215 680n 250V
B201 BEAD5x3
L204 150uH
C209 27n400V MKP10
D207 STTA506F
R238 5k6
D214 BZT55C5,1
VPROT
toFeaturebox
PH12
R244 PH2* 1k
L220 10uH
VERT_OUT
TMK2306Mod.Input
*CN203AfromFocusmodule
dyn.Focus16:9

R230 27k1%
C231 1.8n
R228 0,39RSSX2JB
R231 390R
VERT_OUT
IC201
STV9379FA
VerticalDeflection
C232 220n
R232 2,2 10V
R234 100k1%
R235 100k1%
C236 1.8n
R236 27k
R251 6k8
R252 6k8
D213 uF4007
C234
C233
C229 1000u 16V
C230 100n
100n
1000u 16V
33"52V
29"47V
+39V
C235 100n
R241 600k
Q209 FC848
+200V
+10V
D402 LS4148
R242 8k2
R243 150
+33V
D218 BZT55C33

3 2 1

STEREO/NICAM DECODER & SCART MODUL